



CER Comparative European Research 2017

Proceedings | Research Track

of the 8th Biannual
CER Comparative European Research
Conference

International Scientific Conference for Ph.D. students of EU countries

October 30-31, 2017 | London



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Published in October, 2017 by Sciemcee Publishing, London.

Proceedings document published in collaboration with SCIEEMCEE - Scientific Conference Platform.
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ISBN 978-0-9935191-6-1



Introduction

The conference Proceedings you are holding is a collection of selected peer-reviewed texts presented at the international scientific conference Comparative European Research - CER 2017 (October 30-31).

The biannual international scientific conference is organized under the auspices of the SCIEEMCEE scientific platform every March and October and follows up on activities aimed at providing greater support for the scientific activities of Ph.D. students and beginning researchers. The various biannual CER conferences represent a space for the international assessment of the qualitative standard of scientists and the results achieved by the various academic institutes. The CER conference is an ideal place for comparing the standard of scientific work, particularly on a European scale.

The Proceedings from the CER 2017 conference contains several dozen academic texts whose main purpose is the presentation and sharing of knowledge always in one of nine conference sections. The conference Proceedings prioritize only those articles which are good enough to offer readers new insights into the issues analyzed, or which extend the known boundaries of science. The guarantor of the CER 2017 conference is a signatory of the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities, and therefore all papers are made available to professionals and the general public via OpenAccess.

The conference committee, comprising experts from several university departments, believes that the CER international scientific conference will attract an ever wider base of participants to join in the discussions and will stimulate further scientific work and interdisciplinary development.

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Table of Contents

Session: Management, Marketing

CONNECTED REMOTE SERVICES – A NEW APPROACH OF CONNECTING CUSTOMERS WITH PRODUCTS AND DEALERS <i>Adam-Alexander Manowicz</i>	8
A COMPARISON OF DIFFERENT CUSTOMER EQUITY MODELS <i>Dominikus Stadler</i>	12
STAKEHOLDERS ENGAGEMENT IN ORGANIZATIONS ACTIVE IN THE FIELD OF SPORT IN SELECTED COUNTRIES <i>Patrik Ferenc – Kristína Poláčková</i>	15
ONLINE REPUTATION IN SPORTS ORGANIZATIONS <i>Diana Zráková – Patrik Ferenc – Roman Adámik</i>	20
INFLUENCE OF THE REPUTATION OF ORGANIZATIONS ACTIVE IN THE FIELD OF SPORT ON THEIR STAKEHOLDERS <i>Patrik Ferenc – Diana Zráková – Roman Adámik</i>	24
INNOVATIONS AROUND US <i>Dominika Špaleková</i>	27
RESPONSIBLE DECISION MAKING AT BASF <i>Ali Abou Melhem</i>	30
ENTERPRISE RISK MANAGEMENT <i>Darrell Fernandes</i>	34
CUSTOMER ORIENTED DECISION MAKING IN THE INNOVATION PROCESS OF CERTAIN PRODUCT LINE <i>Juraj Černansky – Viliam Lendel</i>	38
IMPORTANCE OF ONLINE REPUTATION MANAGEMENT IN AUTOMOTIVE INDUSTRY <i>Barbora Línková – Josef Vodák</i>	42
THE IMPACT OF SPONSORSHIP ON THE REPUTATION OF THE SPORTS CLUB <i>Roman Adámik – Patrik Ferenc – Diana Zráková</i>	46
IDENTIFYING THE MAIN ELEMENTS OF THE INNOVATION PROCESS <i>Dominika Špaleková – Viliam Lendel</i>	49
THE REPUTATION AND REPUTATION MANAGEMENT OF SLOVAK GAMBLING INDUSTRY <i>Miroslav Rechtorík – Jakub Soviar</i>	52
OVERVIEW TO MEASUREMENT OF THE HUMAN CAPITAL EFFECTIVENESS <i>Martin Miciak – Alžbeta Kucharcikova</i>	56
MANAGING AND IMPROVING KNOWLEDGE IMBALANCE AND CONFLICT IN THE WORKPLACE <i>Minh Nguyen</i>	60
MARKET ENTRY STRATEGIES FOR SMALL AND MEDIUM SIZED ENTERPRISES IN FOREIGN MARKETS BASED ON A LITERATURE RESEARCH <i>Ann-Kathrin Teltz</i>	64

Session: Economy, Financing, Public Administration

LEGAL BASIS OF IMPLEMENTING INNOVATION IN EU COUNTRIES ENTERPRISES <i>Katarzyna Brożek</i>	69
HOMELESSNESS AND ITS PERCEPTION BY SOCIETY <i>Tomáš Habánik</i>	73

CONTRADICTORY PROCESS WITH ANONYMOUS WITNESS <i>Lucie Kadlecová</i>	77
IN SEARCH OF THE SELF-EMPLOYMENT MODEL IN POLAND: WHAT IS TO BE DONE? <i>Tomasz Duraj</i>	81
IMPLICATIONS OF TRUMP'S TAX REFORM FOR THE FINANCIAL MANAGEMENT OF U.S.-BASED MULTINATIONAL ENTERPRISES (MNEs) <i>Yen-Chih Lee</i>	85
THE ECONOMIC SITUATION, AND THE BUDGET OF THE CITIES WITH THE DISTRICT RIGHTS <i>Ewelina Markowska</i>	69
INSTITUTIONAL CONDITIONS OF LOCAL DEVELOPMENT IN POLAND - SELECTED ASPECTS <i>Urszula Wolska</i>	92
MIGRATION FOR THE PURPOSE OF WORK: WORKING VISA IN THE SLOVAK REPUBLIC <i>Lenka Freel</i>	96
PRACTICAL PROBLEMS ASSOCIATED WITH USING THE CANMERA SYSTEM <i>Rastislav Munk</i>	100
THE ANALYSIS OF RESEARCH AND DEVELOPMENT INDICATORS IN SELECTED EUROPEAN UNION COUNTRIES <i>Elena Širá - Katarína Radvanská</i>	104
ANALYSIS OF PRODUCT LIFE CYCLE AS A STRATEGIC CONTROLLING TOOL IN A COMMERCIAL BUSINESS <i>Justyna Konsek-Ciechońska</i>	107
TRADITIONAL OR MODERN? PREFERENCES OF YOUNG CONSUMERS IN THE FOOD MARKET LITERATURE AND RESEARCHES REVIEW <i>Gabriela Hanus</i>	111
VALUATION OF SHARES AND THEIR FAIR VALUE OF THE COMPANIES LISTED ON THE WIG-TELECOM SECTOR QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND WITHIN 2012-2017 AND THEIR FAIR VALUE <i>Rafał Parvi</i>	116
INFORMATION SYSTEMS AS ESSENTIAL PREREQUISITES FOR ELECTRONIZATION OF PUBLIC ADMINISTRATION IN THE SLOVAK REPUBLIC <i>Sona Ralbovska Sopuchova</i>	121

Session: Industrial Engineering, Innovations

A SPECIAL PURPOSE MECHANISM FOR BACKLASH ELIMINATION ON A PLANETARY GEAR WITH INTERNAL-TOOTHED WHEELS <i>Vojtěch Klouček</i>	126
DRYING BEHAVIOUR AND PROCESS INFLUENCE ON SOME QUALITY PARAMETERS OF SUN-DRIED FIGS <i>Luziana Hoxha - Renata Kongoli</i>	131
SUSTAINABLE PROCEDURE FOR USING WASTE OF DATE SEEDS AS A REINFORCEMENT MATERIAL FOR POLYMERIC COMPOSITES <i>Ali I. Al-Mosawi - Shaymaa Abbas Abdulsada - Abbass A. Hashim</i>	135
OPTIMISATION OF POWER CONSUMPTION OF ELECTRIC DRIVE WITH INDUCTION MACHINE THROUGH ONLINE PARAMETER IDENTIFICATION <i>Tomáš Košťál</i>	139

Session: Applied Informatics

FAULT TOLLERANCE COMMUNICATION IN CYBER-PHYSICAL SYTEMS <i>Said Krayem – Ivo Lazar – Emad Awwama – Mohamed Alarsan – Mohammad Kady</i>	144
---	-----

Session: Pedagogy, Psychology

SEX EDUCATION <i>Tereza Kaláčková</i>	152
--	-----

EXPLORING THE RELATIONSHIPS BETWEEN AUTISTIC TRAITS AND SUBJECTIVE WELL-BEING AMONG WOMEN AND MEN IN A NON-CLINICAL POPULATION

Renata Stefańska-Klar.....155

RELATIONSHIP BETWEEN FAMILY RESILIENCE AND PARENTING STYLE IN ADOLESCENT GIRLS

Katarína Greškovičová – Veronika Marčíšová.....159

PSYCHIC LABILITY OF FUTURE TEACHERS

Vladimíra Lovasová – Barbora Průšová.....163**Session: History, Sociology**

THE PROSPECTS OF THE VICTIM IN THE CRIMINAL PROCEEDINGS

Marek Ivančo.....167

Session: Management, Marketing

Index of Author(s)

Adámik, Roman
Cernansky, Juraj
Ferenc, Patrik
Fernandes, Darrell
Kucharcikova, Alzbeta
Lendel, Viliam
Línek, Barbora
Manowicz, Adam-Alexander
Melhem, Ali Abou
Miciak, Martin
Nguyen, Minh
Poláčeková, Kristína
Rechtorík, Miroslav
Soviar, Jakub
Stadler, Dominikus
Špaleková, Dominika
Teltz, Ann-Kathrin
Vodák, Josef
Zráková, Diana

CONNECTED REMOTE SERVICES – A NEW APPROACH OF CONNECTING CUSTOMERS WITH PRODUCTS AND DEALERS

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Abstract: *The more an economy is developed or the faster it is growing the more it depends on innovation in services for their future growth. The successful introduction of new services is becoming increasingly important as a key driver for economic growth and profitability of large manufacturing firms, such as car manufacturers. This paper is concerned with the contribution of service innovation to customer loyalty. It uses the automotive aftersales business as an example to evaluate if the introduction of innovation such as connected services creates loyalty. The aim of this paper is to develop a definition of Connected Remote Services (CRS) based on existing literature in the scope of service innovation and Remote Services as subfield of Mobile Services. This definition shall be the foundation for the conceptualization of CRS. Based on the results of the conceptualization and on existing literature on customer loyalty, a model of effects can be derived to empirically measure the impact of CRS towards customer loyalty. Results will help car manufacturers and their dealer-networks to fine tune their approach of Connected Services and to improve the service offering. Reliability of the findings will be considered after empirical testing the derived model in the near future.*

Keywords: *Automotive, Connectivity, Connected Remote Services, Service Innovation*

1. Introduction

One general trend in the automotive industry is that the isolated focus on car-sales is replaced by a wider view, considering the initial car sale more of an enabler for beginning relationships with customers. Car sales become the starting point for Relationship Management based on additional services expanding the traditional aftersales business, which today mainly consists of maintenance and repair services. ([1], p.59) In saturated markets like Germany, competition becomes more and more intense since globalization leads to increased price sensitivity among customers. In addition, focus was set on cost reduction and optimization of process flows. Today, the creation of service innovation comes into focus because the purpose is to provide additional services to the market and therefore to increase market share and profitability for the vendor. Companies as well as economists consider service innovation as a lever to new sources of profit as well as new possibilities to keep their customers loyal. The above-mentioned intensification of the competitive pressure affects not only large companies like vehicle manufacturers, it also affects small and medium size companies, such as car dealers and car service providers ([2], p.6). In consequence of this trend, the need for service innovation to fuel further economic growth and to raise the quality and productivity levels of services has never been greater. Services are moving into focus especially for companies of the old economy, such as car manufacturers. One challenge to systematic service innovation is to combine technology, business, social, and customer needs in the creation process of service innovation ([3], p.238). However, there is little research and knowledge on developing and designing services. Service innovation helps traditional product innovation oriented companies like manufacturing firms to fulfil actual and future

customer needs. The satisfaction of customer needs is based on the concept of value creation for customers within the service delivery process. While customers are more and more competent in articulating their needs, and expressing their demands, the success of service innovation becomes more and more dependent on the use and integration of information technology and digitization of information processes into the service delivery system ([4], p.3). This field of innovation has a high relevance in the automotive industry with its focus on car to car communication. Systems such as live traffic information or emergency-call are based on the context based adaption of services and processes at the interfaces between customer, vendor, brand and vehicle. The acceptance of a new service is one of most important aspects regarding success. The more knowledge about customer needs is collected within the firm's innovation process, the better these needs can be used to design the service.

This research aims to develop a definition of Connected Remote Services based on existing literature in scope of service innovation and remote services as subfield of mobile services. Based on the results, CRS can be conceptualized. First the theoretical foundation of service innovation is reviewed, with focus onto mobile remote services.

2. Theoretical foundation on Customer Loyalty

Early investigations on Customer Loyalty solely focused on the behavioural aspect, e.g. by examining the factual repeat purchase behaviour of customers. This behaviourist measurement approach was built on proportions or sequences of purchase assumed to reveal underlying brand preference. ([5], p.116) Conventional wisdom suggests that the best predictor of future behaviour is factual behaviour a customer performed in the past once or in

terms of repeat purchases. ([6], p.667) This approach was criticized for its lack of explanatory power and its isolated focus on factual behaviour neglecting attitudinal aspects of Customer Loyalty. Per Jacoby and Chestnut (1978) attitudinal loyalty encompasses beliefs, affections and intentions. [7] Concretizing these emotions, Oliver defines Customer Loyalty as: "a deeply held commitment to rebuy or repatronize 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 behaviour". ([8], p.34) Dick and Basu combined different customer states of attitude and behaviour, identifying four levels of loyalty: (True) Loyalty with a high level of relative attitude and a high level of repeat patronage, latent loyalty with high relative attitude and low repeat patronage and spurious loyalty with low relative attitude accompanied by high repeat patronage. No loyalty is characterized by low levels of relative attitude and repeat patronage. Loyalty may have several observable consequences, e.g. loyal customers repurchase the same products, express their preferences for a company or product over others and increase business over time. ([9], p.99ff) Zeithaml, Berry and Parasuraman operationalize loyalty as behavioural intentions with five items including (1) saying positive things about the company to others, (2) recommending the company to someone who seeks advice, (3) encouraging friends and relatives to do business with the company, (4) considering the company to be the first choice to buy services, and (5) doing more business with the company in the next few years. ([10], p.34) Applied to the context of this research, the term Brand Loyalty shall be defined and used as follows: "Brand Loyalty describes a future oriented positive attitude of a customer towards the brand which provides CRS manifested by behavioural intentions such as repurchase intention and positive word of mouth." Precisely, repurchase intentions, exclusive intentions, willingness to recommend, resistance to persuasion by third parties are considered to represent suitable indicators for the measurement of Brand Loyalty in the scope of this research.

3. Theoretical foundation on service innovation

First, it is necessary to define the terms service, innovation and service innovation. According to Grönroos, services are "an activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between the customer and service employees, and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems" [11]. Adding, Kotler and Bloom state that: "a service is any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product." [12] The fact that services not necessarily are tied to a physical product leads to the conclusion that the transition between products and services is more of a gradual nature and sometimes cannot always be differentiated

unequivocally. ([13], p.14) Grönroos emphasizes four basis characteristics in defining services:

(i.) Intangibility. The use of services does not result in ownership like in the case of physical products. The customer purchases the right to receive a service. Services are non-physical, although it is provided in support of a tangible product.

(ii.) Inseparability. Production and consumption are conducted at the same time. In contrast to physical products, services cannot be stored. Some or all parts of the service process depend on the interaction between provider and customer, and the information the customer provides. Most of the time customers are present while the service is produced or their presence is mediated by channels like the Internet, e-mail or mobile media.

(iii.) Heterogeneity. Service outcomes and processes are not standardized. Quality control is hard to obtain in comparison to the efforts performed to ensure the quality of physical products. Because of this, services can vary in quality. The evaluation of the quality of a service, in terms of outcome and process, depends on the customer's individual and subjective expectations and perceptions during the consumption of the service.

(iv.) Perishability. The service cannot be transferred or resold which means that the resources needed to deliver the service are not wasted, but must be made operational to deliver the service again. [10].

An indispensable characteristic of service is the necessity of the integration of an external factor (e.g. customer) into the process of service delivery which consists in the introduction of a service object by the consumer into the into the creation and delivery process of the service ([13], p.12) Possible manifestations of the external factor may be human beings as well as material objects such as vehicles or immaterial objects such as software. A disadvantage of the intangibility of services is that there are less possibilities to secure innovations by patents and copyrights. In distinction towards products the imitation of services by competitors is easier. ([14], p.39) This may lead to a shortened time of competitive advantage for companies introducing innovations based on services.

4. Definition of Connected Remote Services

Literature review on Service innovation has shown that there exist several approaches in the scientific community towards the definition of Service innovation. Approaches exist that either come from a company's perspective ([15], p.185) or from a customer's perspective. In this paper the focus is set on the customer perception of innovation. Centering the effect of Service Innovation on the customers perspective, Barcet states that a service innovation: „introduces something new into the way of life, organization, timing and placement of what can generally be described as the individual and collective processes that relate to consumers". ([16], p.51) The novelty of a service innovation can consist of a new service, a new service portfolio and/or a new service process that individually or in combination defines a new way of creating value for the customer ([17], p.494). Further, the authors concretely categorize possible

dimensions and describe service innovation as “a new service experience or service solution that consists of one or several of the following dimensions: new service concept, new customer interaction, new value system/business partners, new revenue model, new organizational or technological service delivery system.” This definition covers important aspects within the scope of CRS, which is a new service concept, it introduces a new way of customer interaction as well as new business partners, revenue models and technology based delivery system. In the next step the definition of service innovation needs to be assigned to the context of Remote Services as sub-discipline of Mobile Services as the technological framework of this research. Karhu defines mobile services in the following way: “Mobile services are independent of time and place. Mobile services can be consumed via a mobile device over a public network and they involve interaction between the customer and service provider’s systems” ([18], p.26). Integrating the aspect of innovation, mobile service innovations combine technologies and concepts from the area of telecommunication, information technology and consumer electronics and typically require cooperation in complex value networks between suppliers, vendors and customers [3]. Picking up the idea of Kotler, mobile services can supplement traditional, physical products. These services aim to provide added value to the customers that is particularly based on the usage of mobile devices, such as smartphones to achieve competitive advantage.

As a subset of mobile services, recently remote services as an additional type of services has developed, describing a separate kind of service that can be delimited from traditional services because a technological interdependence occurs within the delivery process of the service. Wunderlich et al. define remote services as “services that are delivered through a technologically mediated process between a service provider and its customer regardless of the spatial distance. The spatially separated service object can be bidirectional controlled and modified via a control unit”. ([19], p.7) Remote services can be subdivided into Remote Monitoring, Remote Diagnostic and Remote Control ([20], p.7). The derived definition of service innovation in conjunction with the definitions of Mobile Services and Remote Services sets the foundation for the definition of “Connected Remote Services” as a proposal for an integrated approach. Therefore, based on the idea of Connected Services by Hiraoka ([21], p. 16), the following definition for the term “Connected Remote Services” is suggested by the author of this paper:

“Connected Remote Services are – in terms of the customer – innovative mobile Remote Services that enable customers to interact with the service object as well as the service provider by using mobile infrastructure independently of the spatial distance. This infrastructure enables the bidirectional exchange of information and the control of the service object via data channels.”

CRS require several control elements. Information and Communication Technology (ICT) enables the service

provider to access the service object as well as the customer’s mobile device. The customer needs access to ICT that makes it possible to query data and to control and modify the service object. The service object must be able to feed the system via ICT with data of its own status. This enables the customer and the service provider to access the service-object in order to monitor, to perform diagnostics and to control it [13]. Figure 1 describes the information and communication flows within the system architecture.

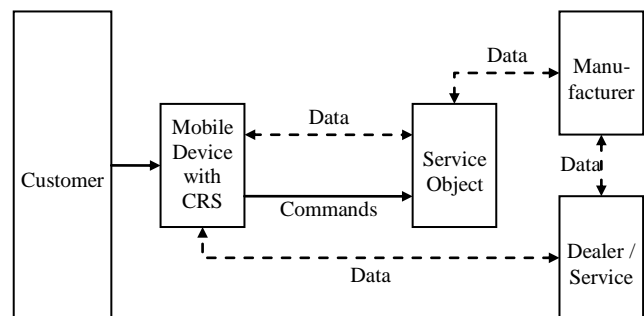


Figure 1: Schematic system-architecture overview of CRS.
Source: author's construction, extended from Wunderlich et al. (2007, p. 13)

5. Limitations

The definition derived in this paper is based on the concept of Connected Remote Services in the automotive industry. Though the formulated definition is claimed to be valid across sectors, differences to other industries and contexts may exist.

6. Conclusions

Connected Remote Services as subject of this paper fulfil the requirements regarding criteria for services, as well as criteria for service innovation, since they are new to the market and change the way of life of customers who use these services. To deliver these services also a new service concept, new customer interaction, new value system and a new organizational or technological service delivery system is necessary.

The definition of Connected Remote Services developed by the author of this paper captures the particularity and novelty of this new type of service, emphasizing the simultaneous interaction of customers with the service object as well as the service provider by using mobile infrastructure independently of the spatial distance. The definition is based on recent research within the scope of mobile services and remote services.

This new approach of linking customers towards a service object and a service provider via mobile infrastructure is assumed to provide entirely new possibilities of interaction. Being continuously connected with a service object and service provider increases brand attachment, which can be measured by an increase of customer loyalty regarding attitude on the one hand and factual behavior on the other hand. Attitudinal loyalty can be measured by repurchase intention, positive word of mouth and willingness to pay more. Next the developed findings

regarding Connected Remote Services flow into a comprehensive conceptualization which again is the foundation for the empirical investigation of the effects towards customer loyalty.

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A COMPARISON OF DIFFERENT CUSTOMER EQUITY MODELS

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Abstract: *The Financial Times titled “Consumers absolutely love Amazon - it makes their life more bearable”. Moreover investors love companies like Amazon with their extremely high customer focus, too. But how can Investors find such information about customers and their value in a balance sheet or how can they predict any future development from financial valuation models? Facing the customer equity approach, it is necessary to investigate the customer equity (CE) model and the customer lifetime (CLV) model. Both are directly related and customer equity is the aggregation of a firms expected customers lifetime value considering existing and new attracted customers. The hybrid customer equity model figures out a strategic framework to validate management problems and intangible information. Moreover this model identifies the key drivers for firm’s customer equity and may lead to more results to maximize the long-term performance of a firm.*

Keywords: *Customer Equity, Customer Lifetime Value, Brand Equity, Value Equity, Relationship Equity*

1. Introduction

Looking on the balance sheet of a firm can provide a lot of tangible information of a company, but what about the intangible ones? For example the Financial Times titled “Consumers absolutely love Amazon - it makes their lives more bearable”. (Ito, 2017, p. 1) Moreover John Authers established investors love companies like Amazon with their extremely high customer focus, too. (Ito, 2017, p. 3) But how can investors find such information about customers and their value in a balance sheet or how can they predict any future development from financial valuation models?

This paper will focus on exactly this issue, the firms’ customers and their value and even more their lifetime value in the future.

To allocate the customers’ value of a firm there has to be a definition of customer and their specific value. A legal approach to define the customers’ value is to summate the discounted expected earnings and subtract their acquisition costs. (Gupta, Lehman, & Stuart, 2002, p. 1) This approach may seem very simple on the first look. Therefore it’s necessary to go some steps deeper to analyse the specific value of the customers and proof their relation. Against movements at Wall Street which consider customer based approaches as delusive, this paper will point out that customer based approaches have a great significance on the firms’ value. (Gupta, Lehman, & Stuart, 2002, p. 4) While established financial metrics mostly state the current situation, a customer based analysis enables to forecast a long term value of a firm. There might be also differences between firms where established financial approaches work well and others where they are misleading. To understand the power of customer based approaches it’s necessary to examine critically the composition of a customer focused approach. (Gupta, Lehman, & Stuart, 2002, p. 4)

For example in traditional analysis the Return on Investment (ROI) is used to evaluate and compare the success of activities and investments. (Aravindakshan, Rust, Lemon, & Zeithalm, 2004, p. 1) The Return on Investment is nothing less than the sum of provided

resources and the resultant outcome. However this method might provide disadvantages, when it comes to measure a marketing strategy. Or even more to make a marketing strategy financially accountable. (Aravindakshan, Rust, Lemon, & Zeithalm, 2004, p. 2) Looking at the history of economic science the age of product based view has moved on to a customer centred perspective. Nowadays it’s nearly indispensable to evaluate firm’s marketing strategies and to identify the main drivers of the firm’s customer equity. (Aravindakshan, Rust, Lemon, & Zeithalm, 2004, p. 5) Even more the customer equity framework gives firms a tool to calculate and rank their strategies on a mid and long-term perspective. Finally the customer equity approach makes mostly intangible information measurable and accountable. (Rust, Lemon, & Zeithalm, 2004, p. 109)

2. Customer Equity Models

Facing the customer equity approach it’s necessary to investigate the customer equity (CE) model and the customer lifetime (CLV) model. Both are directly related and customer equity is the aggregation of a firms expected customers lifetime values considering existing and new attracted customers. (Hogan, Lehmann, Merino, & Srivastava, 2002, p. 30) Therefore customer equity can be defined as the future oriented contribution of the customers to the company value. (Blattberg, Getz, & Thomas, 2001, p. 17) A mathematical approach is given by following formula.

$$CE = CLV * \text{market share} * \text{market size}$$

Figure 1: The Customer Equity Formula

Where customer equity is the product of customer lifetime value, the relevant market share and the total market size. (Aravindakshan, Rust, Lemon, & Zeithalm, 2004, p. 12) Where customer equity is the product of customer lifetime value, the relevant market share and the total market size. To operationalize the customer lifetime value (CLV) it has to be broken down in its several items.

$$CLV = \sum_{t=0}^T \frac{(p_t - c_t)r_t}{(1+i)^t} - AC$$

Figure 2: The model representation

Where p_t is the price paid by a consumer at time t , c_t are the direct costs servicing the customer at time t , i is the discount rate or cost of capital for the firm, r_t is the probability of customer repeat buying or being alive at time t , AC are the acquisition costs and T the time horizon for estimating the customer lifetime value. (Aravindakshan, Rust, Lemon, & Zeithalm, 2004, p. 13)

While the theoretical literature review on customer equity several models appear. This paper will concentrate on the three main and different types of customer equity models and select a suitable one for further research.

The “black-box model” based on a capital value formula in combination with an additional customer loyalty rate. Therefore the customer lifetime value of each customer has to be summed up. The controlling potential of a black-box model is highest with existing customers. (Reinartz & Kumar, 2000) The influence on new customers is not sufficient covered with this approach. (Blattberg, Getz, & Thomas, 2001)

The “behavioural model” based on a multidimensional approach. This customer equity model is driven by different success potentials and customer relation measures. The management potential of this model seems to be critical. (Burmman, 2003) The psychographic environment variables are transformed into monetary measures. Therefore this approach is still controversial discussed. (Blattberg, Getz, & Thomas, 2001)

The “hybrid model” can be seen as synthesis of both, “black-box model” and “behavioural model”. (Burmman, 2003) The “hybrid model” uses specific behavioural measures and connects them with a mathematical formula based on a capital value approach. (Rust, Lemon, Zeithalm, 2004) For further discussion the hybrid-model based on RUST, LEMON & ZEITHALM research shows the most accordance and theoretical exercise in the area of customer equity approach.

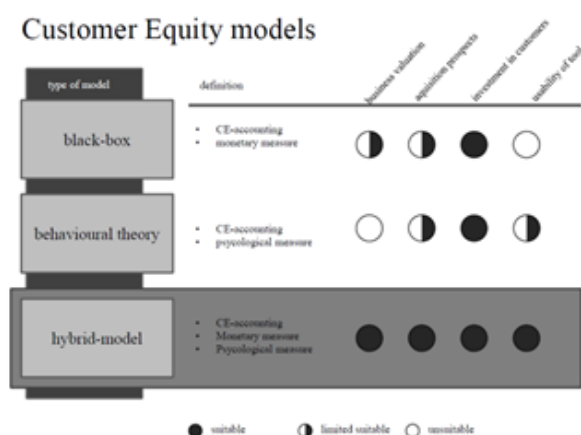


Figure 3: Contrast of Customer Equity models in style of Burmann, 2003

3. Hybrid Customer Equity model

The hybrid customer equity model developed by RUST, LEMON & ZEITHALM figures out a new strategic framework to validate management problems. More over this model identifies the key drivers for firm's customer equity. The determination of hidden vulnerabilities and critical success factors makes this approach very powerful in a management decision making process. (Lemon, Rust, & Zeithalm, 2001, p. 21)

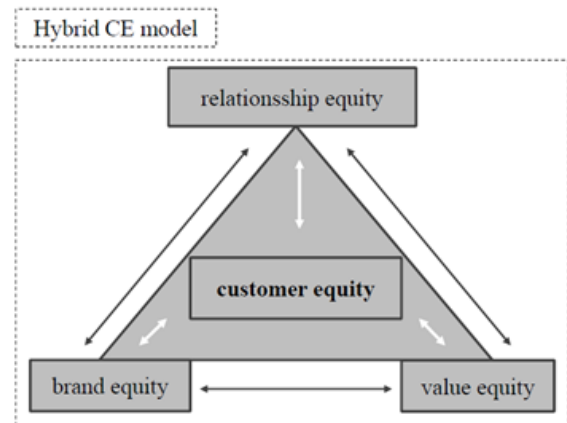


Figure 4: Hybrid Customer Equity model of RUST, LEMON & ZEITHALM

This hybrid customer equity model is based on three main drivers: value equity, brand equity and relationship equity. (Lemon, Rust, & Zeithalm, 2001, p. 22) To analyse the drivers for customer equity it's necessary to keep in mind that consumers are switching between brands. (Aravindakshan, Rust, Lemon, & Zeithalm, 2004, p. 7)

First of all brand equity is based on image and meaning in the customers mind. The brand equity of a firm can attract new customers as well as work as a reminder to keep services and products in customers mind. Moreover brand equity can work as a connector to the firm and their products. (Lemon, Rust, & Zeithalm, 2001, p. 22) The importance of a brand is not new also the importance of brand equity was already mentioned in earlier days. But the connection and integration of brand equity in a customer equity model brings up the linking connection in a holistic approach. (Aravindakshan, Rust, Lemon, & Zeithalm, 2004, p. 5) Additionally brand awareness as well as strong consumer attitudes through direct marketing is playing an important role in building or maximizing a firm's brand equity. (Lemon, Rust, & Zeithalm, 2001, p. 2) Second value equity is the outcome of what is given up for what is received. If the brands promise meets the expectation of the firms customers. Moreover value equity reproduces the rational and objective part of the customers' decision making process. (Aravindakshan, Rust, Lemon, & Zeithalm, 2004, p. 5) The ratio of a products' price, quality and customer convenience is driving the firms' value equity and in the end also the customer equity. (Lemon, Rust, & Zeithalm, 2001, p. 22) Finally high brand equity and high value equity may not be enough to hold customer to the firm. There has to be glue

between customers and the firm. The definition of relationship equity is the willingness of a customer to stay with a brand and a firm. (Lemon, Rust, & Zeithalm, 2001, pp. 22-23) Main issues on brand equity are the switching costs of the customers. All relationship programs aim to increase those switching barriers. (Aravindakshan, Rust, Lemon, & Zeithalm, 2004, p. 7)

Conclusion

Looking at these different customer equity models and different methods, the main drivers have a huge influence on a firms' long-term success. This framework enables deeper analysis on critical drivers of customer equity and may lead to more findings for example in channel management to maximize the long-term performance of a firm.

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STAKEHOLDERS ENGAGEMENT IN ORGANIZATIONS ACTIVE IN THE FIELD OF SPORT IN SELECTED COUNTRIES

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Abstract: *Stakeholder engagement is very important for organizations in all business sectors. Their requirements differ with respect to the environment which they operate in. This paper focuses on the basic principles of the functioning of the sports industry in selected countries. The following countries were selected for analysis: Poland, Finland, Hungary, Denmark, Netherlands, United Kingdom, Canada, and Norway. The countries were selected considering of their active involvement in this area. The paper describes their successful systems of relationship management and funding in the field of sport. Through the analysis, the key factors of successful relationship management and funding in the field of sport are identified, both in the elite sport and community sport. Based on this knowledge, the most important key aspects of successful management of the sports industry in the country are formulated. Applying these aspects, which have proven to be very successful in the selected countries, it is possible that any country which wants to promote the sports area development, can achieve positive results and the boom in this sector.*

Keywords: *stakeholders, sport, organization active in the field of sport, reciprocal relationships*

1. Introduction

At present, it is often very difficult for non-productive organizations to assert in the market. Strong competition and a dynamic market environment have a huge impact on organizations. For market survival, it is often necessary to look for the right partners to help the organization achieve the set goals.

As time passes, sport gradually evolved as a living organism. From normal leisure sports activities, sport has developed into a multi-million-dollar industry [5]. Today's form of sport forces us to respect and understand sport as one of the world's rapidly developing business environments, which results also in great dynamics and the development of relationships between stakeholders and sports businesses. Rapid development in this industry also affected its commercialization. Today is sport considering as a business, involving the largest businesses in the world [1]. In order to managers be able to manage the sports club or other sports organization effectively, they must take into account the dynamics of the environment and the diversity of stakeholders.

2. Organizations operating in the field of sport and their stakeholders

Stakeholders have been in business for years. Organizations have different internal and external stakeholders with different interests and priorities. For organizations working in the field of sport, this is not different. Likewise, in this case it can be said that the interests of the various stakeholders may be in contradiction, even though they are interested in the same organization. For sports organizations, stakeholders are the owners, managers, workers, athletes, fans, customers, creditors, the public, other sports organizations, and others [4].

Organizations operating in the field of sport can be understood as non-productive organizations active in the

sport sector. They are organizations that participate directly or indirectly in the realization of a sports product. It is a set of instant-consumption items that have their own lives.

Managing relationships with these organizations is difficult because the interest of these stakeholders in relation to the organization is different. A well-defined strategy helps managers with this. However, the strategy must be dynamic, because the interests and activities of the various stakeholders may change in the course of mutual cooperation, in regards to the needs, the changing values, and specific experience of each of the stakeholders [8, 9, 11]. In a case of the absence of any strategy to manage these relationships, the business may have a problem in properly establishing relationships with key stakeholders in the future [10] because of the collaboration and correct management of relationships with key stakeholders is one of the important steps to achieve business success [2].

It is necessary to constantly build good relationships with stakeholders because these relationships are vital for a successful business [20]. Business management must also consider that any failure to address stakeholder expectations may result in the failure of jointly implemented projects [6, 13, 14, 12]. When managing these relationships, it is necessary to take into account the different components of the enterprise's internal and external environment [16]. However, this does not guarantee the enterprise that the implementation of stakeholder management tools will be perceived positively in the business or by the stakeholders [15]. Insufficient management of stakeholder relations and inadequate mutual communication can lead to disagreements and conflicts and [15, 18]. However, as there is interdependence among many stakeholders, when communicating and managing relationships, the

management of company can use the same managerial elements for different stakeholders at the same time [7].

3. Reciprocal relationships of organizations active in the field of sport and their stakeholders

From case studies conducted in 2013 in Finland, Hungary and Poland, it was found that the impact of the state on sport is significant. It is therefore possible to argue that this is one of the most important stakeholders. However, the impact of the private sector, which also has a large number of significant stakeholders, cannot be missed. Considering the development of the environment and its commercialization, financial relations are among the most important relationships.

In all three case-studies analysed, the funding of sport is provided by the state, through the ministry that finances individual associations, or through municipalities that directly subsidize individual sports clubs. The private sector is also directly involved in funding through various sponsorship contributions to sports clubs. There exists a mutual reciprocity of stakeholders in these relations.

The role of the state consists mainly in managing and subsidizing the individual activities at national level, i.e. in building an appropriate environment for the development of sport through the ministry that manages sport policy through legislation [17]. In this case, the reciprocal relationships of organizations working in the sport sector are indirect. These organizations do not have a direct reciprocal relationship with the state but their reciprocity lies in providing money flow, job creation, participation in GDP, and so on.

Nowadays, the financing of sport abroad also use the funding through projects. The number of resources and funding is quite high, which allows the realization of a larger number of projects in shorter time. This form is mainly used because a suitable combination of public and commercial financing can be more effective in financing [19].

Further knowledge in this area was gained from the analysis of the sports industry in Canada, United Kingdom, Netherlands, Norway, and Denmark [4]. The basic characteristics of the selected countries are described in more detail in the Table 1.

Table 1 Basic characteristics of the field of sports in selected countries

	CA	UK	NL	NO	DK
Population	35,2 million	62,6 million	16,8 million	5,1 million	5,6 million
Sport participation rate	34%	52%	64%	75%	71%
Sport club members	-	12,38 million	5,7 million	2,0 million	2,0 million
	CA	GB	NL	NO	DK
Funding for elite sport (per year)	90 million CAD	130 million GBP	35 million EUR	68 million EUR	40 million EUR
Funding for leisure sport (per year)	150 million CAD	400 million GBP	80 million EUR	50 million EUR	200 million EUR

3.1 Canada

In Canada, the federal government is the largest contributor to elite sport, while community and recreational sport is mostly funded at provincial, territorial and grassroots level. The political governance structure in Canada is divided into three different levels – federal, provincial/territorial, and municipal. Organizations at all levels play a significant role in Canadian sports, but the role of federal government is the most extensive and most important. Sport funding and the responsibility framework provide the federations with the responsibility for using the funds they receive from the program.

Elite sport assessment system. The reallocation of funds is based on performance potentials and many other variables to be taken into account.

Large number of sport facilities. The large public and elite athletes have enough training and training resources (the country has the most indoor and outdoor ice hockey areas in the world that are primarily intended for the public). The development and maintenance of elite sports training centres and facilities are particularly helpful for host events (e.g. Vancouver, 2010 and Toronto, 2015).

Cooperation between different levels of government. In Canada, federal, regional and local authorities have the opportunity to comment on the development of the sports sector. Effective frameworks and systems are being developed to coordinate efforts in this area. The most prominent of these is Canadian sports policy which sets out the basic principles of intergovernmental cooperation.

Youth competition opportunities. Although there is no detailed youth sports policy in the country, there are some significant initiatives. Competitions give participants valuable experience and many of the participants will later become professionals and represent Canada at the highest level of sport.

3.2 United Kingdom

Most British sports organizations have a clear mandate and focus on either attending community sports or elite sports. The government operates in both aspects at the same time. The two institutions with the greatest impact in the country are Sport England (support for public sport) and UK Sport (allocation of funds and control of the functioning of sports federations). The sports organizations are mainly funded through the government in two ways: directly (from the financial budget) and indirectly (the state lottery). Enterprise funding (sponsorship contracts or private fundraising) plays an important role at many levels. The reorganization effort in the 1990s significantly improved the structure of sport management in the country. Redistribution of tasks has meant that each organization can concentrate its resources on a well-defined area of sports policy. System editing continued over the last decade, as the responsibilities of British sports and home sports advice were more clearly defined. Key areas, which the UK sports industry is focused on, are as follows:

Effective restructuring. New organizations have emerged and existing organizations have been reorganized. All

responsibility for the development of Olympic sports was transferred to UK Sports.

'Brutal' elite sport redistribution system. Sports federations are ranked on the basis of their Olympic results and funds are provided to those who have the greatest chance of success (failure to meet the set goals can result in total withdrawal of funds while the permanently good performance can increase the share of public funds).

Stable funding channel for the sport sector. The sports sector under the restructuring was complemented by funding from the national lottery yield. From this source, a large part of their funding comes from the Olympic federations, national teams, local sports clubs, and facilities.

Rebranding of the Olympic Team. The need for rebranding arose during the 1990s. The brand 'Team GB' was created which has since become the semi-official name of the association itself. This brand has also become an advertising resource for British sports partners and sponsors (e.g. Cadbury and BMW).

3.3 Netherlands

The Netherlands achieves remarkable results in the field of sports in the professional field as well as in leisure sports activities. The country ranks among the top 20 countries that are medal-placed in the Olympic Games and about 64% of the population use leisure time through sporting activities (European average is 46%). The main feature in the sport sector is the bottom-up structure (i.e. the sport's success is driven by a leisure base and a strong national sports culture). The Dutch sport management system recorded a major structural change in 1993 when the Netherlands Olympic Committee and the Netherlands Sport Federations merged into a single governing body. The most important developments in the last two decades were mainly changes in the policy and role of the government. The key areas for which the sport sector in the Netherlands is focused are as follows:

Bottom-up organization of sport. Sports clubs, as the basis of sport in the Netherlands, are mainly managed by volunteers and provide a wide range of sporting opportunities for all. Clubs are largely subsidized by the state, and even municipal governments invest more than one billion euros a year in public sports facilities.

Holistic approach to athletic assistance. There are four national sports centres and five other training centres where elite athletes can learn and use the services of sports professionals. These centres provide accommodation and education for athletes. An important mission is that the athlete must be supported in all aspects of his or her life so that s/he can fully develop and use his or her potential.

Strong relations with the corporate sector. National organizations, federations and sports clubs have many corporate partners offering different levels of sponsorship packages during the Olympic round.

All-encompassing sport policy. For each 4-year Olympic cycle, The Sport Agenda sets a working framework for all stakeholders in the sport field. The objectives set facilitate the effective communication and help to ensure the necessary public support.

3.4 Norway

The Norwegian government provides financial stability for the sports sector but does not directly affect the strategic decisions of the main sports players. The most important member of the multi-level structure is the Norwegian Olympic Committee and the Confederation of Sports (NIF), as all other organizations are associated with it. NIF has a high level of autonomy and is responsible for allocating public funds to federations and sports clubs. Each participant is responsible for delivering elite and community sports, with the exception of Olympiatoppen which focuses solely on promoting Olympic sports. The key areas for Norway's sports sector are as follows:

A sporting nation. Sports activities are an integral part of the ordinary life of the country and therefore local authorities support sports in the community, even if they do not have a legal obligation to do so.

Centralized sports system. The Norwegian sports policy and objectives are proposed by the Confederation of Sports, which is the supreme body of the sporting structure and is not influenced by the government. This system clearly assigns the responsibilities to at all levels (up to national). Autonomy within the NIF works by Olympiatoppen which all tasks relating to elite sports are delegated to.

State of the art elite sport facilities. The Olympic Sport Centres take care of the professional needs of elite athletes and provide high-quality, professional services, courses, and training. Relationships and cooperation have been established with secondary schools, and specific sports curricula are implemented in many of them.

Stable revenue source. The main source of funding for sports is the national lottery yield. The share of lottery yields is constantly increasing and lottery participants can determine what organization directly receives 5% of their bets. This funding scheme has been very successful from 2009 to today.

3.5 Denmark

In Denmark, the state rarely interferes with the economy and society, and therefore the elite sport has its own government institutions (Team Denmark and Sport Event Denmark) and specific legislation in the field of sport. In the country, there are 3 nationwide organizations which are independent of the government. Each of them has its membership base. Sports federations and clubs can be members in more than one place. They have a sporting council (Idrættens Fællesråd) jointly which provides a place to solve problems and issues raised in this area. In Denmark, the most dominant form of organizing sports activities is represented by the sports club. Sports clubs increasingly become the commercial organizations and are dependent on the contributions of their members. Concerning total funding in the sport sector, the contributions from the corporate sector are important at every level (elite sport funding and community sport funding). The elite sector is primarily funded by the state, and the contributions are redistributed by two interconnected organizations. The community sport sector

is easier to fund. Sports clubs receive different support from the government and from local authorities.

The key areas for the Danish sports industry are as follows:

High participation rates. Sports is part of a culture of everyday life, and the rate of participation in sports activities has increased from 15% to 64% (this has been shown in all age groups) and, on the basis of this trend, the state strengthens the relationship between schools and sports clubs.

Centralised elite sport management. Team Denmark is responsible for the overall planning of the sporting elite level structure (allocates funds to national sports federations) and therefore has an impact on the sports sector development. A system is created to collect expertise and experience through which the responsibility among national sports organizations is promoted.

Voluntary sports club system. In Denmark, for every 350 citizens, there is one sports club and considering this high number, club roles (coaching, management, etc.) are carried out on a voluntary basis. The law requires local authorities to provide support to sports clubs, for example in the form of free use of sports facilities.

Specific organization for event hosting. Sport stakeholders have established a single event (Sport Event Denmark) through which they organize all sports events. This authority is free of direct influence from other national organizations and via this entity state resources for event hosting purposes are distributed.

4. Conclusion

Due to the specificities of the sports industry, it is possible to conclude that organizations working in the sport sector are in a difficult situation. These organizations have to work with very specific stakeholders, and the management of relations between them is very demanding. For each country, these relationships are very specific, due to the sporting culture of the country and the very involvement of the countries in the field of sport. Based on an analysis of habits and possibilities in selected countries, it is possible to find out the most successful moments of cooperation that could inspire other countries that are not so successful in this area. The most important aspects of the successful management of the sports industry in the country are:

Promoting sports culture in the country. For the efficient functioning and development of sport, it is necessary for the government itself to contribute to the promotion of sport culture through the development of sport in communities. Regarding to elite athletes and the development of elite sports, it is essential to support youth, as the professional athletes grow from the youth. Professional athletes must be supported in all aspects of their lives, so that they can fully develop and use their potential.

Financing via the State Lottery. Primary funding takes place in all countries through government contributions and subsidies, and a very successful funding system in this area is a co-financing through the state lottery and sponsorship. One of the possibilities of co-financing is the use of commercial contributions from the sports clubs

members. However, this system works only if a strong sports culture is built in the country.

Decentralization of government management to independent institutions. The management of sport and individual organizations operating in this area is very complicated and demanding. Therefore, the state uses the decentralized way in which organizations are managed by other entities to manage organizations in this sector. These entities usually have their own management system and specific legislation focused on the field of sport.

When applying key aspects that have proven to be very successful in selected countries, it is possible that any country that wants to promote the development of the sport area has achieved positive results and booming the industry, which will not only bring economy benefits to the country but also ensure it prestige and better cooperation with other countries.

Acknowledgements

The paper was supported by project VEGA 1/0617/16 – Diagnosis of Specifics and Determinants in Strategic Management of Sporting Organizations.

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ONLINE REPUTATION IN SPORTS ORGANIZATIONS

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Abstract: Reputation for organisations represents an essential part of their existence. This paper deals with the problematics of online reputation in the field of sports organisations. The survey which was carried out for the needs of this paper relates to the evaluation of the user interaction with the official websites of the selected Slovak ice-hockey clubs. Based on the obtained information by the survey, for the selected sports clubs we have formulated recommendations for their websites improvements as well as better communication with fans, which can ensure benefits in the area of online reputation for the selected Slovak clubs. The introduced recommendations for improvements of the reputation and communication can be applied also in the sports organisations from other areas than the one which were the selected clubs from.

Keywords: Reputation, Online Reputation, Sports Organization, Website of Sports Clubs

1. Introduction

Today, reputation is an important and significant part of various fields such as enterprise, show business, education or sports. When talking about sports, reputation is also a current issue in sports organizations and sports clubs. Not only customers but also fans of various sports organizations do perceive the positives and negatives about the entire organization. Therefore, if a sports organization or its members make a mistake, in a relatively short time, such an action reflects on its reputation. Mistakes can be of a different nature, whether it is deception, disrespect towards club fans or members of a sports organization, or drugs cheating, all of them and many other activities have a great impact on the reputation in the sports industry. For this reason, reputation and its creation, as well as branding, should be a priority for all the sports organizations.

2. Reputation and Sports Organizations

Reputation represents the concept of creating a positive image of an organization. Such a concept brings to the organization not only a positive image of itself from the perspective of the public, but also through reputation the organization is helped obtain prestige, positive references and create a brand. The great advantage of reputation, its care and creation brought by reputation is the ability to differentiate the organization and to gain competitive advantage over rival sports clubs and other organizations. The reputation can be defined as follows: Reputation is a prediction of future behaviours that is based on an assessment of how past behaviours meet the expectations of a certain social status [2].

In order to gain a good name, one needs to know their audience with whom the organization communicates. They have to know what motivates the audience, what they demand, what will bring them the greatest benefit and added value, but also a sense of satisfaction when meeting their needs. To be able to prepare suitable content that is to be communicated towards their audience, they need to find out the information in some way. In this case, in the

business sphere, there are various surveys and research being carried out. Such activities can also be done by sports organizations or clubs in order to find out what the fans forming the main audience are thinking about them. Analysis and monitoring audience's opinions should be done at regular intervals, as it is enough to make a small mistake, and the views of the sports organization or club will change rapidly. If the change of opinion is negative, it often brings negative reputation to the sports organization as well. The sports organization can in a second lose everything it has been building for years. Negative views are not only the long-term loss of the team in competitions, but rather the behaviour of the sports organization towards its fans and the general public.

Farmer and Glass claim the following on reputation: "Reputation is information used to make a value judgment about a subject or a person" [8]. In his book, Buckingham quotes an old proverb saying "It takes a long time to build a good name, but only a moment to destroy". [3] It is true that nowadays information spreads rapidly and therefore it only takes a moment to destroy reputation, good name, and positive attitudes. On the contrary, it takes a considerably longer time to repair the damage and it represents a conscious process of redressing.

Therefore reputation can also be defined as a set of attitudes, expectations, and audience judgments that are crucial and relevant to the organization. These attitudes, opinions, judgments and expectations do affect the organization and its activities [14]. Fombrun states on reputation that it represents a set of internal relationships with the stakeholders of the organization and external relations with all stakeholders, excluding partners and relations with competitors [9]. The author also claims that reputation relates to the organization's overall strategy and has to be in line with the marketing strategy [10].

In order to promote positive reputation, it is necessary to keep constant contact with the fans and the public. Communication reflects the internal culture of sports organizations and should not only be of an occasional nature. If sports organizations and clubs wish to maintain

positive reputation and gain fans' loyalty, they must constantly communicate with them, to put it simply to know their audience [5]. For this reason, it is necessary to carry out a survey of the audience. A survey of the fans and their moods can also be found, for example, on social networks. Authors say that in online environment individuals tend to focus around an organization or a brand for an obvious reason. Social networking fans focus around individual clubs in order to gather and exchange information, interact with each other, but also for their entertainment [12, 16]. Social networks enable organizations, among other things, to maintain friendly communication and to explain crisis incidents in the area of sports losses. If the reaction of fans and the public is negative, the organization should act appropriately and respond truthfully to keep its fans, what in the end is beneficial to its reputation [7].

Creating reputation consists in building values and trust in the sports organization towards the public in order to preserve the value for the fans. Impression is very important in reputation, too. The impression determines the future behaviour of all the stakeholders, not just the fans. Positive reputation enhances performance, helps to resist risks, and from the fans' perspective it confirms them in their good decision made to give the sports club a positive response [1, 4, 13, 15].

For the purposes of this article, it is appropriate to define a sports organization. Most sports organizations have their legal form of a civic association. They raise money from the members in a form of an annual membership contribution, i.e. they receive public resources for their activities. These activities include creating conditions for sports practice, organizing competitions, and also preparation of individual players or teams for their participation in competitions. The purpose of a sports organization is summarized in the documents needed for its foundation and is based on the organization's objectives. Similarly to businesses, a sports organization has its objectives, vision, goals, corporate as well as marketing strategy [6, 11].

3. Survey

The survey in this article focused on the online reputation analysis of sports organizations in Slovakia. More specifically, this survey focuses on Slovak ice-hockey clubs. The purpose of the survey was to compare official websites as it is one of the first contact points where a fan can find out the most information. The user interaction on a website has been evaluated based on the transparency of the website. Transparency is evaluated based on the visibility of the key information, i.e. hyperlink to the official club social network, links to match tickets purchase, to current club events, club information, information on the players' list, photo gallery, fan shop or online gift shop, and section for fans (fan zone). The survey was conducted for each of the selected websites by three people who have not visited the web site before, measuring the time it took them to find the required information on the site. To ensure the objectivity of the survey, we decided to conduct a survey with more than

one person, taking into account the average time it took to search for specific information. If the requested information on the webpage was not found within 2 minutes, the factor was counted with a time period of 120 seconds. Based on the importance of the information, each piece of information is assigned a value within the range 1 – 5 (means minimum and 5 maximum). Higher value means higher importance of the factor. The values of the individual information are as follows: link to the official club social network with a value of 4, a link to the purchase of tickets with a value of 3, information on current events and news with a value of 3, club information with a value of 4, a photo gallery with a value of 2, a fan shop or an online gift shop with a value of 4 and a fan section with a value of 5. After calculating the average value of the time needed to look up the specific information, the time of that information was subsequently multiplied by the value of the factor and then for each website the sum of all information was created. The lower the resulting number, the clearer the website can be considered. Websites with a lower resulting number are more transparent to fans, leaving them with more positive impressions and satisfaction, resulting in positive reputation associated with club online activities.

Table 1 Evaluation of the User Interaction with a Website – 1st person

<i>Selected Club Websites / Selected Club Factors</i>	<i>HK Poprad</i>	<i>HC Košice</i>	<i>HC SLOVAN Bratislava</i>	<i>HC Banská Bystrica</i>
Social networks	5,42 s	55,5 s	3 s	2,9 s
Link – ticket purchase	11,8 s	3,4 s	6,7 s	10,1 s
News and current events	6 s	3,3 s	5,1 s	3,5 s
Club information	6 s	8 s	6 s	5 s
Players' list	5 s	2,8 s	8 s	4 s
Photo gallery	-	-	7,6 s	4 s
Fan shop, online shop	9,5 s	2,9 s	10,8 s	3,9 s
Fan zone	6 s	3 s	2,9 s	-

Table 1 lists the times of the first evaluator who searched for the desired factors on the four websites of the Slovak ice-hockey clubs. It can be seen in the table that the person in case of two clubs, namely Poprad and Kosice, did not find a photo gallery at the site at all. (S)he also did not find a fan section on the Banská Bystrica site, but stated that this club site as a whole is very customer-oriented, i.e. is fan-oriented. The first person spent the least time searching for a players' list in the ice-hockey club of the city Košice and the most time, up to 55.5 seconds, searching for a hyperlink to social networks. Searching for this factor may discourage fans and they would prefer to search the club directly on selected social networks, so the placement on the website is inefficient.

The first person who evaluated the website stated that all the sites are unclear and chaotic. (S)he also concluded that HC SLOVAN Bratislava has its own website which is

misleading because the top bar that is prescribed for KHL members forwards the fans to KHL websites.

Table 2 Evaluation of the User Interaction with a Website – 2nd person

<i>Selected Club Websites / Selected Club Factors</i>	<i>HK Poprad</i>	<i>HC Košice</i>	<i>HC SLOVAN Bratislava</i>	<i>HC Banská Bystrica</i>
Social networks	5 s	28 s	3 s	2 s
Link – ticket purchase	3 s	5 s	3 s	12 s
News and current events	3 s	5 s	4 s	4 s
Club information	17 s	6 s	3 s	5 s
Players' list	4 s	4 s	4 s	4 s
Photo gallery	-	-	16 s	10 s
Fan shop, online shop	7 s	6 s	12 s	4 s
Fan zone	4 s	20 s	4 s	-

The second evaluator did not find a photo gallery at the Poprad and Košice club as well as the fan zone, just like the first evaluator. This evaluator spent most of the time searching for links to social networks on the Kosice club's website and spent the least time searching for social networking sites on Banská Bystrica club's website. According to the second evaluator, club websites were modern, overloaded with information and difficult to navigate through. Like the first evaluator, (s)he pointed out the misleading link between the Bratislava club and KHL.

Table 3 Evaluation of the User Interaction with a Website – 3rd person

<i>Selected Club Websites / Selected Club Factors</i>	<i>HK Poprad</i>	<i>HC Košice</i>	<i>HC SLOVAN Bratislava</i>	<i>HC Banská Bystrica</i>
Social networks	3 s	-	3 s	1 s
Link – ticket purchase	10 s	20 s	1 s	2 s
News and current events	2 s	2 s	1 s	1 s
Club information	2 s	2 s	1 s	1 s
Players' list	2 s	1 s	1 s	1 s
Photo gallery	-	30 s	30 s	2 s
Fan shop, online shop	10 s	10 s	7 s	4 s
Fan zone	2 s	2 s	2 s	-

Table 3 lists the final evaluation times of the third evaluator's interaction with the individual club websites. The evaluator reported times without direct links which output a little less time than the previous evaluators who clicked directly into the bookmarks they searched for. From Table 3, it can be seen that the evaluator did not find the photo gallery in one club only, namely the Poprad's club, but stated that the club places photos in the articles or within the fan zone in a large number. Visiting Bratislava club's website, (s)he managed to find the photo gallery in the Multimedia tab, but only having already previous experience with such placement. (S)he claims that a

regular fan will not find these photos in that location at all. Like the previous evaluators, (s)he did not find a fan zone at Banská Bystrica club's website, but said the whole website is fan-oriented. Also, the third reviewer stated that all of the club's websites are unclear, though modern, but chaotic, and would require more logical layout and clarity.

Table 4 Average searching time of selected factors

<i>Selected Club Websites / Selected Club Factors</i>	<i>HK Poprad</i>	<i>HC Košice</i>	<i>HC SLOVAN Bratislava</i>	<i>HC Banská Bystrica</i>
Social networks	4,4 s	67,83	3 s	1,9 s
Link – ticket purchase	8,2 s	9,4 s	3,5 s	8 s
News and current events	3,6 s	3,43 s	3,3 s	2,8 s
Club information	8,3 s	5,3 s	3,3 s	3,6 s
Players' list	3,6 s	2,6 s	4,3 s	3 s
Photo gallery	120	90	17,8 s	5,3 s
Fan shop, online shop	8,8 s	6,3 s	9,9 s	3,9 s
Fan zone	4 s	8,3 s	2,9 s	120

Table 4 lists the averaged times of all the three evaluators and thereafter multiplied by the assigned values for each factor.

Table 5 Overall score of the selected ice-hockey clubs

<i>Selected Club Websites / Selected Club Factors</i>	<i>HK Poprad</i>	<i>HC Košice</i>	<i>HC SLOVAN Bratislava</i>	<i>HC Banská Bystrica</i>
Social networks	17,8	271,3	12	7,8
Link – ticket purchase	24,8	28,4	10,7	24,1
News and current events	11	10,3	10,1	8,5
Club information	33,3	21,3	13,3	14,6
Players' list	11	7,8	13	9
Photo gallery	240	180	35,7	10,6
Fan shop, online shop	35,3	25,2	39,7	15,8
Fan zone	20	41,6	14,8	600
TOTAL	393,2	585,9	149,3	690,4

Table 5 contains the overall score of websites of the selected ice-hockey clubs operating in Slovakia. From Table 5, it can be said that HC SLOVAN Bratislava has got the best website, in the second place there is the HK Poprad, followed by HC Košice. In the final place there is the HC Banská Bystrica club.

4. Conclusion

As mentioned above, the positive result of the survey is the lowest value. Already looking at the HC SLOVAN Bratislava website, it is clear that this club has got foreign activities as it is possible to get information and find links directly on KHL website. Although the winning club's site is difficult to navigate through, it is relatively logically divided, and what is more it includes sections for other stakeholders, such as fans, that the other clubs miss. In the

section "We are SLOVAN", there is information provided on media relations, as well as the information and benefits of partner cooperation. All the selected clubs should review the logical arrangement of the information on their websites. Once the pages are clear, fans can better navigate, which is why clubs will be more satisfied with their online activities done by the fans. Based on the survey, it was also found that some clubs lack a photo gallery section, or have this section in an obscure and hard-to-see place. It is advisable for clubs to concentrate photos from matches and different events in one place so that fans can experience their successes / failures and emotions with their favourite club and players.

None of the selected clubs had anything special to increase their online reputation, but also the communication with the fans, apart from social networking sites. For such communication it would be convenient to introduce, for example, a blog or some sort of communication medium through which they would be directly in touch with their fans on their official website.

Our recommendation to the clubs is as follows: a more rigorous and detailed audience analysis in order to find out what their fans are asking for, what information they would appreciate if they were posted on the club's website, etc. In order to gain positive reputation, the clubs have to try to meet the information needs of their fans and keep communicating with them constantly with the purpose to keep their fans of favour.

Acknowledgements

This work was supported by the Slovak Research and Development Agency under the contract No. APVV-15-0511.

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INFLUENCE OF THE REPUTATION OF ORGANIZATIONS ACTIVE IN THE FIELD OF SPORT ON THEIR STAKEHOLDERS

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Abstract: *Entrepreneurial activities in every environment, even in the sport environment, are influenced by stakeholders. However, the reputation of the company is an important factor affecting business activities as well as stakeholders. Especially in the sport sector it is a very important factor that can not be ignored. This paper highlights the importance of reputation in organizations working both in sport and in tourism. These organizations are an important part of both environments. If these organizations want to cope with the interaction of these fields, they need to have a good reputation built. The impact of these fields on these organizations as well as the impact of reputation on the business activities of these organizations is shown in this paper. This paper also shows how these organizations should build their long-term reputation for long-term advancement.*

Keywords: *Organizations active in the field of sport, Reputation, Sports, Stakeholders, Tourism*

1. Introduction

The sport sector as well as tourism are currently experiencing a world-wide boom and, with a growing forecast, they can be considered as globally attractive industries. By changing political regimes, people began to travel more, work abroad, or meet other countries. People have changed tourism to a lifestyle. Competition and mutual rivalry in this industry is great because the fight for the customer not only wins the lowest price but also the services offered. Due to high competition, it is necessary to care for and respect their loyal customers, but also to forget about the importance of acquiring new customers. In this business environment, as in the sport environment, it is important for businesses to have a good reputation. In order to get as many people as possible, accommodation facilities use various marketing tools for their promotion. One of the options is sports facilities, which visitors can use on advantageous conditions. To make the most successful marketing efforts, it is necessary to have a pre-selected marketing strategy - which often relies on the reputation of the organization.

2. Theoretical background

According to Fyall and Garrod [6], tourism is a specific sector in which it is very difficult to manage an organization. Same, it is a sector in which there are very strong competitive relations between companies. Kindersley [11] said that tourism had emerged as one of the most expanding industries in the 20th century; it is to be expected that its rising trend will continue in the 21st century even faster. This is followed by the claims by Hazdra et al. [8], who say that service provision has been booming in recent years.

Susan Briggs [3] states that tourism companies can be defined as companies providing:

- short-term movements of people to destinations outside the places where people live and work,
- activities that can be performed in these destinations.

In view of the previous text, it can be said that tourism is a modern, emerging industry with a very strong interaction between competitors in order to meet the needs of traveling, spending leisure time or simplifying the daily customer's day.

The market environment in the tourism industry can not be perceived as a classic product sales market. Bennett and Strydom [1] claim that selling is just one of the many aspects that make up the business process in this market environment. It is important that marketing is not understood as a tool to promote product sales but to meet customer requirements.

It is well known that for businesses in tourism, marketing is very important as it defines customer needs and guides the company so that customer needs are met as expected [1]. However, tourism marketing has its own specificities that are based on the specifics of services tourism. According to Bennett and Strydom [1], successful marketers will be the ones who best understand customers' demands and can best satisfy them in a constantly changing marketing environment.

The second environment in which selected organizations operate is the environment of sport. Marketing in a sporting environment, similar to the environment of tourism, is the process leading to the determination and subsequent application of the chosen marketing mix technique. Customers are understood to be both an active and a passive member, a visitor, a sponsor or a state authority. The further, the more we can meet the sales of sports services in this sector.

The company's success in this environment consists of a well-created offer, a well-chosen price policy, company and staff management levels, as well as a distinctive relationship to its customers. The result of a successful marketing of sports services is to achieve an optimal number of standing customers and to ensure prosperity and the earliest return on investment [5]. What does sports marketing mean? Sports marketing is the application of marketing concepts for sports products and services and

the marketing of non-sporting goods through their association with sport. Like other forms of marketing, sport marketing, it strives to fulfill the wishes and needs of consumers. It achieves this by providing sporting services and products related to consumer sport. Same, sport marketing means not only the marketing of sport but also the use of sport as a market tool for products and services [11, 13].

Sport management is a way of managing organizations working in the field of sport. It includes basic management functions such as planning, organizing, staffing, staffing and personnel development and control, but also areas such as accounting, finance, economics, marketing and law. The sporting component of sports management terminology represents the area of the viewer who covers the satisfaction of his needs through services and products and a field of fitness, whose interest is active participation in sports and physical activities [4, 9].

Sport management is closely linked to sports marketing, and both of these areas have a direct impact on the organization's strategy. Marketing strategy is, according to Hanzelkova et al. [7] a process that aims not only to meet customer requirements and expectations, but also to meet business goals and achieve a competitive advantage. One of the goals is also the spread of a good name that is directly linked to customer relationship management. Therefore, it can be said that the marketing strategy represents a business process with clearly defined steps aimed at achieving predetermined goals based on the knowledge of the external, internal environment of the business, the market, the competition and the customers for whom the product is intended. In addition to stakeholders from the external and internal business environment that affect the creation and spread of reputation, the reputation is also influenced by the culture of the business. Therefore, the internal culture of an enterprise should also be taken into account when choosing a strategy, since it can be the engine of success or failure of the chosen strategy [2].

3. Study

In developing this study, which focuses on the impact of the reputation of non-production organizations operating simultaneously in the field of sport and tourism on their stakeholders, information has been gradually acquired in various ways. Practical experience, observations, and information obtained from the Internet were used to make relevant and determined factors in the Competitive Profile Matrix (CPM).

This study analyzed 5 organizations within Slovakia that operate within both business environments. It was a housing facility that, apart from accommodation and other tourism services, is also involved in the field of sport. These organizations have a variety of sports and rehabilitation facilities that use recreational but mainly professional athletes and sports clubs for various activities such as concerts or tournaments.

Table 1 CPM matrix

Factors	W	1		2		3		4		5	
		R	WS	R	WS	R	WS	R	WS	R	WS
Sport events	0,08	5	0,40	6	0,48	7	0,56	9	0,72	4	0,32
Awareness	0,15	6	0,90	8	1,20	7	1,05	8	1,20	7	1,05
Event Traffic	0,10	4	0,40	7	0,70	6	0,60	8	0,80	8	0,80
Sponsors	0,08	6	0,48	9	0,72	6	0,48	8	0,64	6	0,48
Range of services	0,07	5	0,60	7	0,84	7	0,84	7	0,84	7	0,84
Partners	0,10	3	0,30	5	0,50	3	0,30	5	0,50	4	0,40
Collaboration with the city	0,15	5	0,75	6	0,90	6	0,90	9	1,35	9	1,35
The price	0,15	8	1,20	8	1,20	8	1,20	8	1,20	8	1,20
Youth support	0,07	6	0,42	5	0,35	5	0,35	8	0,56	9	0,63
Communication with the public	0,05	6	0,30	7	0,35	6	0,30	9	0,45	9	0,45
Summary	1,00		5,75		7,24		6,58		8,26		7,52

Legend: R – Rating
W – Weight
WS – Weighed Score

Table 1 shows that different organizations behave differently on the market. However, it is important to note that all organizations have a similar pricing policy and range of services. However, the big difference is between the reputation of individual organizations and the attendance of their events. This phenomenon can also be seen in the following chart.

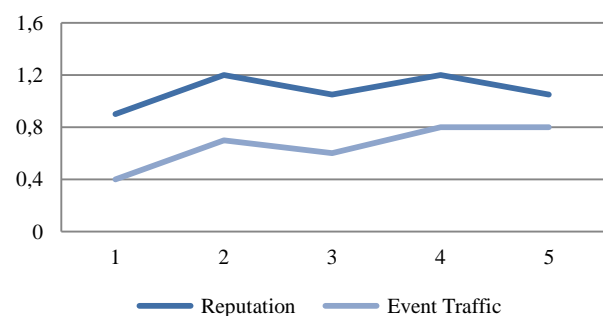


Figure 1: Reputation vs. Event Traffic

As can be seen in Figure 1, there is a dependency between the level of reputation and the traffic of sporting events. The higher the reputation of the organization, the more attended events are. Similar dependence was also found between the reputation level and the number of partners and sponsors. This second phenomenon can be seen on the next page in Figure 2.

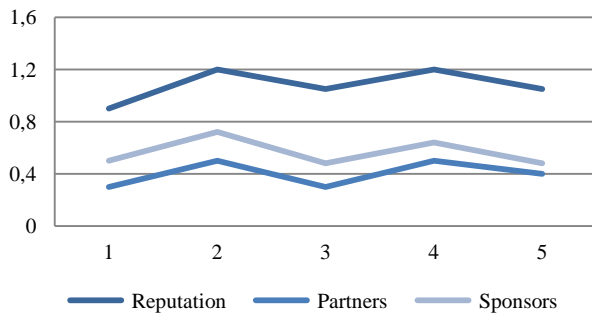


Figure 2: Reputation vs. Partners vs. Sponsors

Figure 2 illustrates a phenomenon that points to how the organization has a higher level of reputation, the more important its partners have and the more sponsorships it has. With a decreasing reputation level, this number of sponsors and partners is dropping as well as declining traffic to organized events.

4. Recommendations

Based on the study, was created 10 recommendations for organizations working simultaneously in the field of sport and tourism have emerged. Organizations should:

- regularly organizing sporting events,
- increase the number of domestic citizens using their sports facilities,
- create and deepen awareness among the public about the importance of sport as a healthy lifestyle,
- constantly modernize your sports facilities,
- increased sponsorship as a form of financing sports events,
- creating new job offers in the field of sport and tourism,
- comprehensive support for sport within the city where the organization is based,
- establishing cooperative clusters between entities,
- supporting youth recruitment activities,
- pricing of services acceptable to the public.

6. Conclusions

The impact of the reputation of sports organizations on their stakeholders is big. As the study demonstrated by growing reputation, public interest in the services of these organizations is increasing. At the same time, the growing reputation of these organizations has a higher chance of gaining new partners/sponsors. This dependence is also in the opposite direction. With declining reputation, interested parties are interested in these organizations. In order for the reputation of these organizations to grow, it is necessary for these businesses to take care of their reputation. This should help with the above 10 recommendations. It is a prerequisite that, when applying these recommendations, the reputation of these companies towards their stakeholders will be positive.

Acknowledgements

The paper was supported by the Slovak Research and Development Agency under the contract No. APVV-15-

0511 and the project VEGA 1/0617/16 - Diagnosis of Specifics and Determinants in Strategic Management of Sporting Organizations.

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INNOVATIONS AROUND US

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Abstract: *This article talks about ubiquitous innovations around us that we do not even realize. This is innovation in the form of the internet, mobile phones, computers, concept, chips and technologies that allow us to receive and process huge amount of information necessary for our life. These innovations not only help us in everyday life but also simplify it. And many people can no longer imagine lives without innovations.*

Keywords: *innovation, internet, internet of things*

1. Introduction

One of the often mentioned notions today is the Internet of Things (IoT). IoT is a combination of several innovations (internet, chips, sensors, mobile phones...). These innovations not only make our life easier but thanks to them, businesses can better access and work with information that is necessary for their business.

The emergence of new technologies, media and the internet has significantly changed the habits of the people, users. Customers no longer believe traditional advertising and marketing, they are immune to them. With access to sufficient information on the internet customers has become more demanding and shift their selection criteria higher. Internet itself is also responsible for these facts, which offers a wealth amount of information.

2. Innovation

Nowadays are the innovation often inflected word. A detailed analysis of the various definitions of domestic and foreign authors describes the innovation as the emergence of something new.

Kamien and Schwartz (1999) think the term innovation means all activities from basic research through inventiveness to the development and commercialization of enabling the emergence of a new product or method of production.

According Bobrow (1987) the innovation reflects a change from the original structure of the production organism - transition to a new state of the internal structure. Vlcek (2008) argue that innovation is a creative human activity which causes a positive change in the structure of business entities and also results in the desired and expected positive effect.

According to the authors Herman, Hezina and Zeman (2002) the innovation is the process of doing constant changes (in technical design products in their production process, the materials used, etc.), which brings producers of certain competitive advantages and allow it to improve its competitive position in the market.

J. A. Schumpeter argues that the innovation is the change in order to introduce and use new kinds of consumer goods, and new production vehicles, new markets and new forms of organization in the industry.

A common feature of the various definitions is that innovation is the creation of something new, and therefore can define

innovation and original creative process of creating something new - products, services and so on. (Moravčíková, 2016)

3. Internet

Internet itself can be labeled as an innovation, which would not have arisen without computers and another technology (which also may be termed as innovation).

"The internet is a global computer network, which has several hundred million subscribers and provides a variety of services, namely access to hypertext documents (World Wide Web), electronic mail (email), audiovisual broadcasting, transmission of data files and programs etc. The internet is a loosely organized international collaboration of autonomous interconnected networks that enable communication computers connected to the voluntary adoption of and adherence to standard protocols and procedures. Internet is not owned or controlled by anybody." (Choi and team, 1997)

"The internet is 1) network of networks that links many governments, universities and private computers together and is providing the infrastructure for the use of e-mail, data files, hypertext documents, databases and other resources, 2) massive collection of computer networks that form and behaves like one huge network for transmission of data and messages to a range from one location to another, which can be anywhere in the world, 3) the largest network in the world, using a technology referred to as TCP / IP protocols and packet communication. " (Coyle, 2002)

3.1 Internet of Things

Kevin Ashton First used the term Internet of Things in 1999. Kevin Ashton was the founder of the Auto-ID Center. Modified definition according to Kevin: "Even though the fact that I was the first person who used the phrase 'Internet of things' does not give me any right to control how others use it. But what I had in mind: today's computers and the internet are almost entirely dependent on information from people. Almost all data from roughly 50 petabytes which are available on the internet was at first time captured and created human beings - by writing, pressing the recording button, taking picture or scanning a barcode. Conventional diagrams of internet include servers, routers and other technical elements, but leave the most important and largest tasks on people. The problem

is, however, people have limited time, attention and precision - meaning they are not very good for the collection of data in the real world. (Karbovanec, 2013)

According Felischa the basic idea of the IoT is that virtually every natural thing in this world, can also become a computer that's connected to the internet. Ganji, Kliq and Scholz-Reiter understood IoT as a supportive framework for interaction between the bundle of diverse objects, as well as the convergence of technologies.

IoT is a way to achieve a smart world through innovation. IoT aim is to facilitate users different tasks. While providing other tasks, such as simple monitoring of various phenomena that surround people and companies. So, ubiquitous computing technology can monitor these phenomena without any manual intervention. (Chaouchi, 2013)

The environment of IoT contains things, objects or machines on which it is enriched with computer technology, communication technology and added communication framework. In this context, the wireless and wired technologies actually provide communication skills and interaction, conflicts of various services based on P2P (person-to-person), P2M (person-to-machine), M2P (machine-to-person) or M2M (Machine -to-machine). Linking processes, things, people and data presents a new internet that generates huge amounts of data. (Chaouchi, 2013)

IoT services are based on providing more automated tasks, and interconnection of different objects. The main objective is to create an intelligent world, not only in production but also in the office, at home ... Most of these services are aimed at placing and tracking of connection of objects. Other Services - object oriented services are discovered in the context of building a "Green Planet" and with the objectives associated therewith. There will be a space where the application will automatically monitor the environment and respond, for example in minimizing of energy use or for avoiding natural disasters. (Chaouchi, 2013)

IoT consists of four fundamental pillars: people, processes, data and things (fig. 1). However, let us not forget that without innovation in terms of new technologies and techniques (computer, communications ...), computers and of course the internet would not exist the concept of IoT.

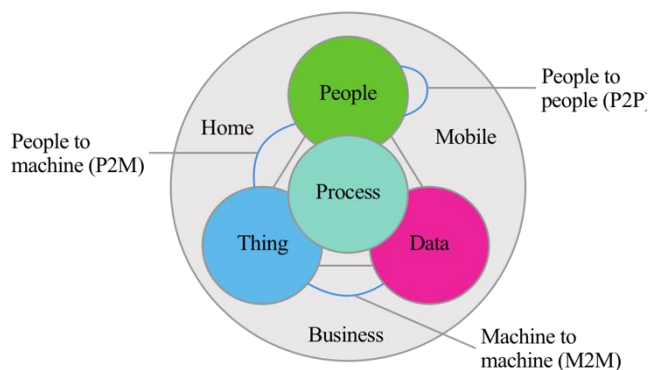


Figure 1: Internet of Everything

People - are connected through devices such as smartphones, PCs, tablets, as well as through social

networks such as Facebook or LinkedIn. Accordingly, the Internet affects the interaction of humans and it further developed itself. **Processes** will also play an important role in how the different actors - people, data or things will interact with each other. Their efforts will achieve social benefits and economic value. The term **things** contain a lot of physical objects - for example, sensors, meters and other types of equipment. These things will perceive and provide much more information, the necessary information to control output and provide more information to help people and businesses make decisions. Examples of things on the internet are all smart meters that communicate energy consumption, assembly lines - robots that automate manufacturing plant operations and smart transport systems that have been adapted to the road conditions. At present, the usual devices collect **data** and stream them over the Internet to a central source. They are then analyzed and processed. (Vermesan, Friess, 2013)

Data are retrieved from the processes and things, and later becomes information (if they reduce uncertainty). Based on the quality information can people (employees) make better decisions and be creative. They also help in the development of new innovative ideas...

3. Conclusions

The current trend is inexorable and development of innovation in terms of technology and the internet continues to progress, whether it is computers, phones, tablets, new communication networks, sensors, chips, etc. IoT concept is becoming the current standard, which people/companies do not even realize, but they prefer it. After all, it simplifies everyday life. People and companies are willing to spend not a small amount of money for technologies this time. All of these technologies and their connections are created for the needs of people and businesses and therefore are expanding and progressing by leaps and bounds.

IoT provides companies a wealth of information. Companies should seek to collect this information, record, select and subsequently evaluate them. This is precisely the way to increase competitiveness, efficiency and innovation through every available information. Business innovation also supports the knowledge management.

If the company wants to increase its competitiveness, it must learn to use the existing innovation and technology. Considering also the emerging and increasing momentum of the IoT phenomenon, which is changing the nature of innovation itself, firms can gain competitive advantage through data gathering and exchange, by building digital ecosystems through ICT tools and infrastructures, experimental technology platforms, and applications. (Santoto and team, 2017)

Acknowledgements

The paper was conducted within the scientific project: VEGA No 1/0363/14 Innovation management: processes, strategies and innovation performance.

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RESPONSIBLE DECISION MAKING AT BASF

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Abstract: On April 23, 2015, BASF celebrated its 150th anniversary. From a company with 30 employees in 1865, by 2015 BASF had become the world's leading chemical company with approximately 113,000 employees in 80 countries and sales reaching €70.45 billion. Since its foundation in 1865, BASF took the lead in science and innovation; indeed, the work of its top chemists has led to several global achievements. In the 19th century, the company not only was concerned about its impact on the environment, but was also concerned about the well-being of its employees. Being a responsible player in the chemical industry, BASF co-founded the Responsible Care Global Charter, a major milestone for the industry. After establishing its compliance base, the company made several commitments to sustainability, ranging from encouraging employees to become shareholders to having open and transparent discussions with stakeholders through Creator Space. Today, BASF embraces sustainability in all aspects of its operations. As part of its product portfolio, BASF has implemented Sustainable Solution Steering®, one of the ambitious sustainability initiatives of the company. This paper conveys the story of innovation, resilience, and sustainability at BASF, as viewed from a responsible decision making perspective.

Keywords: Responsible Decision Making, Sustainability, Corporate Social Responsibility, Sustainable Solution Steering

1. Introduction

On the 6th of April 1865, Friedrich Engelhorn, a goldsmith and entrepreneur, founded a stock corporation in Mannheim, Germany, under the name Badische Anilin & Soda Fabrik. The manufacturing facilities were placed on the opposite side of the Rhine River in Ludwigshafen, which was a part of the former kingdom of Bavaria.

This case study looks at the development of BASF's approach to responsible decision making and related challenges. It also describes BASF's sustainability development program historically, with a focus on the most recent years during which time major transformations in BASF's sustainability performance have taken place.

One of the key data collection methods used was a management survey administered to the Strategic Planning group at BASF with the intention of understanding the sustainability culture of BASF's management. The survey consisted of a series of questionnaires that enabled the researcher to formulate an understanding of sustainability culture, as well as its relationship to responsible decision making at BASF and its variations throughout management hierarchy.

2. Sustainability Culture at BASF

The sustainability culture at BASF was explored through a combination of a management survey and interviews with key stakeholders from the sustainability strategy group. The results of the survey in many ways support BASF's self-perspective about its sustainability culture that can be found in publications and reports. At the same time, the survey has highlighted challenges in areas which could help BASF in its continuous efforts for improvement.

Two focus areas of sustainability culture were explored in the assessment: responsible decision making and sustainability climate. But before analyzing the results of the survey, one would ask: what is the role of the

sustainability strategy group? and how does it represent BASF's sustainability culture?

2.1 BASF's Sustainability Strategy Group

Sustainability management at BASF consists of three main groups: Sustainability Strategy, Sustainability Relations, and Applied Sustainability. Under the leadership of Dr. Dirk Voeste, Vice President of Sustainability Strategy, the sustainability management team shows a high level of passion for continuous improvement. Voeste's ambition to make a positive impact, not only at company level but also for the common good, reflects well on the sustainability team and creates positive energy among them. Voeste enjoys his position and considers himself very fortunate to be part of a company that is able to make a difference; he commented in an interview for this case study that: "If I privately plant ten trees, that would be a great thing; but if I could help to change the output by BASF by 0.5%, the impact would be much bigger. And that's why going to work every day is my dedication on one end but also seeing the impact on the future generations to come."

The main function of the sustainability group is to develop sustainability strategies for BASF and its group of companies and to implement sustainability into the function and business divisions.

The sustainability group plays an important role in responsible decision making, such as investment decisions. BASF has established expert reviews regarding sustainability aspects. Andreas Kleinke, Senior Manager in Corporate Sustainability Strategy explained, "In my role, I am responsible for evaluating investments and M&A projects with respect to sustainability". This review is an integral part of BASF's investment decision making process (source: company).

One of the key roles of the sustainability group is to integrate sustainability into marketing. Its purpose is to

embed sustainability into the minds and hearts of the sales people and support sales with its sustainability tools like the eco efficiency analysis, sustainability workshops and expertise. For example, the Applied Sustainability team has a direct contact with BASF's customers to support driving sales over short and long terms.

2.2 Responsible Decision Making

BASF has a climate of strong support, awareness, and contribution from its executive management to sustainability issues. This was highly visible in the results of the management survey which provided insights about how responsible decisions are made. Several questions regarding decision making have led to interesting observations about responsible decision making at different levels of the hierarchy. With respect to responsible decision making at the leadership level, 68% of the management survey participants believed that BASF leaders integrate sustainability into their decision making and only 5% of them disagreed with this statement. On the contrary, only 45% of the participants believed that employees and mid-level managers integrate sustainability into decision making.

In response to this inconsistency, Dr. Florian Feigs, Team Leader for Applied Sustainability commented in a follow up interview: "Mid-level managers are still driven by classic key performance indicators such as EBIT, sales and short term incentives." Feigs added: "This might be caused by the high volatility in the markets; if the markets were more predictable, then those managers would take more risks to pursue sustainable solutions and would invest in long-term projects". Also, on plans that BASF has put in place for improving this area, Voeste commented in the interview for the case study that: "With respect to this dilemma, key is that we embedded sustainability in all of our major management processes. We also implemented sustainability in our investment decisions for property, plant and equipment, and financial assets."

This part of the survey was administered under the assumption that the level of understanding of sustainability is heterogeneous throughout the organization, especially among the different levels of management. To verify this assumption, a question about heterogeneity in sustainability understanding was introduced. As much as 90% of the survey participants believed that the level of understanding of sustainability is higher at executive level and decreases down the hierarchy. Further analysis of the preceding three survey results has shown that all participants who believed that mid-level managers and employees do not integrate sustainability into their decision making were neutral about the leaders. This could be interpreted that the sustainability people believe that the level of application of sustainability matters is not uniform along the hierarchy. In addition, 100% of this sub-group of participants believed that the level of understanding of sustainability is higher at executive level and decreases down the hierarchy.

2.3 Sustainability Climate

The Company's sustainability performance is high according to several reputable third parties, such as the Dow Jones Sustainability Index. Also, there is a high level of trust in the culture of BASF and sustainability is embedded within corporate policy, strategy, procedures, business and management systems.

Supporting these arguments, 95% of the survey participants confirmed that BASF has implemented a corporate-wide management system for sustainability and 90% agreed that the company has embedded sustainability into operating procedures and policies. In addition, there is a high level of trust in the organization, supported by about 70% of the survey participants.

Continuous learning appears to be a focus area at BASF, with more than 90% support from survey participants. However, when asked about being encouraged to learn from external resources, 24% of the participants disagreed and 24% were neutral. This could be an indication that BASF has a strong learning culture that is mainly focused on its internal resources.

"Do people in BASF actively challenge the status quo?" was a question that challenged the participants of the survey. Twenty-three percent of respondents agreed, 41% were neutral, and 23% disagreed with this statement. Feigs clarified: "For some employees, if sustainability is not translated into a technical language like performance of products or impact categories like CO₂ emissions, then they cannot link sustainability to their daily jobs and therefore may remain neutral about certain topics in the survey." Other stakeholders shared a similar opinion. With respect to the two opposing poles of responses to the question, Feigs added: "Challenging the status quo is highly encouraged at BASF depending on the situation ... for example when developing the strategy, then people are asking fundamental questions like: Are we on the right track? What will be the future market? Do our assets fit the future needs?"

Employee performance and recognition is an area that scored low in the survey results. About 65% of the participants agreed that the company has integrated sustainability-related goals into the performance management system; however, only 28% believed that rewards and compensation are clearly linked to the organization's sustainability goals. On the other hand, and as BASF stands firm behind innovation as a driver, 95% of the participants supported the argument that the company rewarded innovation in general. In addition, it was observed throughout the case study that innovation is considered by BASF as one of the important drivers for sustainability. Thomas Kessel, Senior Manager for Applied Sustainability Team Upstream, commented: "Sustainability and innovation complement each other; there will be no sustainability without innovation and vice versa."

3. BASF's Approach to Sustainability

Improving and balancing social, environmental, and financial goals simultaneously have been among the company's biggest ambitions. One year after its founding

in 1866, BASF had its first occupational doctor Ludwigshafen. Additionally, early notable initiatives started in the mid-19th century, when BASF realized that a sustainable employee policy must extend beyond wages. In 1872, BASF built its first housing estate as an incentive to retain employees. Introducing additional social welfare benefits, the company included voluntary health insurance in 1870 and a pension fund in 1888. However, most notable is that BASF has engaged in initiatives on a global scale since the mid 1990's, when BASF took an active role in the Responsible Care initiative.

3.1 Responsible Care and Eco-Efficiency

Responsible Care is a global initiative by the chemical industry launched in 1985 to drive continuous improvement and achieve excellence in environmental, health, safety and security fields (ICCA, 2015). The initiative embraces sustainable chemistry to meet the world's growing needs for chemicals and chemical-based products.

In 1996, BASF started using the Eco-Efficiency analysis, which identifies the critical parameters that improve the economic and environmental aspects of processes and products based on a Life Cycle Assessment methodology. This was a new way of analysis that was applied to the whole supply chain, from raw materials to disposal. The approach, discussed later in more detail, is considered one of the most proactive approaches to improving products and processes of sustainability performance.

To understand how responsible decision making at BASF has evolved, this case study explored how a decision to develop a revolutionary approach such as the Eco-Efficiency method was made. Dr. Andreas Kicherer, Director of the Sustainability Strategy at BASF (who was involved in the development of the Eco-Efficiency method), described the decision to create an "Eco-Efficiency Analysis" in 1996 as "a top-down one, made by the board of executive directors." Further interviews have led to the observation that BASF has a strong hierarchical structure where decision making is most effective when made top-down.

3.2 Sustainable Solution Steering®

Sustainable Solution Steering® is BASF's and one of the most ambitious sustainability initiative up to date. The company was observed, as seen in its publications and stakeholder interviews, to be very proud about this initiative, which perhaps is another major turn in BASF's approach to sustainability. Between 2011 and 2016, BASF analyzed about 60,000 of its products and solutions, conducted sustainability assessments and evaluated over 95% of its entire portfolio amounting to €66.3 billion in sales.

This method is considered a portfolio segmentation of BASF products and processes per their sustainability performance in their respective application. It consists of three major steps, as shown in the figure below, whereby a product or process is classified, first to analyze the requirements from the market, the customer, and society points of view in comparison to alternative solutions in the

market. Second, the sustainability contribution of the product from cradle-to-grave is assessed. Third, the product is categorized into one of four categories: "Accelerator," "Performer," "Transitioner" or "Challenged."



Figure 1: Product or Process Classification Per the Sustainable Solution Steering® (Source: Company, 2016)

In 2016, 21.6% of the analyzed products were rated as Accelerators, amounting to 13,500 products and solutions with about 14 billion euros in sales. This means that those products contribute to sustainability throughout the entire value chain, and they are better than the market average. Examples of those solutions are light weight plastic materials that reduce the weight of cars and thus improve fuel efficiency or provide extended mileage for battery cars.

Performers are products or solutions that meet basic market standard sustainability requirements. In other words, they meet the standard requirements that apply to a specific industry. For instance, thermal insulation materials used for old buildings were evaluated as Accelerators because they exceed standard regulations. However, because thermal insulation of new buildings is required by law in European countries, solutions applied in new buildings were classified as Performers. Over 72% of BASF's analyzed product portfolio matched this classification.

A Transitioner is a product where specific sustainability requirements were identified, and plans for action are defined. About 5% of the analyzed products fell in this category.

Applications that do not sufficiently fulfill significant sustainability criteria equated to less than 1% and were labeled as Challenged. BASF is developing plans of action for these products to find better solutions, including research projects, reformulations or even replacing a product with an alternative. For example, BASF classed poly-fluorinated substances used in paper coating as Challenged even though European authorities consider them to pose a very low risk to humans and environment. BASF launched a research project to develop biodegradable paper coating that will entirely replace the Challenged classified product.



Figure 2: BASF Product Distribution Per the Sustainable Solution Steering® (Source: Company, 2016)

In the future, BASF wants to increase the number of Accelerator solutions to further improve the sustainability contribution made by the company and its customers. The company has put action plans in place, including targets for strategic business units to increase the share of “Accelerator” products to 28% by 2020 (BASF SE, 2015).

4. Questions for the Future

Sustainability for BASF is not simply a target or an achievement. Even though the sustainability management group is well satisfied with what they have achieved, sustainability for them is a process, and the company will always be going through transformations as it goes through this process. A Senior Manager for Sustainability Downstream commented in an interview for the case study that: “Sustainability has a long way to go. It is a very broad topic, and it is a process where you need to convince others that a change is happening”.

A major challenge remains in determining how sustainability is understood among all employees and along the hierarchy as well as integrating sustainability into sales and marketing thinking. Further research on improving responsible decision making could support the implementation of sustainability strategies at the operations level of various businesses within BASF. Research should become more specific to various elements of sustainability instead of approaching sustainability overall.

Responsible decision making, especially because of the strong hierarchical structure at BASF, is mostly effective when made top-down. Future research shall continue to develop better understanding of BASF’s corporate culture and leverage its strength to help the organization improve its sustainability performance.

This case study has therefore concluded that a development of a transformation model is necessary to improve responsible decision making. This will help BASF to leverage its practical experience and provide input and feedback. Kessel commented: “Because of our hierarchy structure, research could focus on certain challenges such as working along the whole value chain and to increase the exchange between divisions.”

Feigs, out of his long experience in sustainability at BASF, provisioned five steps that could affect responsible decision making:

1. Continue to consider risk-based thinking when making decisions and using scenario thinking
2. Include sustainability into the personal targets of decision makers
3. Use traceability of decisions and develop ways to trace back decisions that have led to long term benefits
4. Sustainability-driven sales KPI
5. Continue to reward innovation and consider innovation as an integral part of sustainability

The transformation model may include the creation of a new process for responsible-decision-making which focuses on the human factors such as the quantification of sustainability benefits.

Acknowledgements

I would like to express my sincere gratitude to Mr. Thomas Kessel for the continuous support of my PhD study and related research, for his patience, motivation, and immense knowledge.

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ENTERPRISE RISK MANAGEMENT

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Abstract: *The dynamic and competitive business environment of recent times has seen numerous catastrophes, from natural disasters to financial to cross country border crisis to frauds and scandals. This has brought to the limelight risk management, a discipline that has in the past focused on mostly hazardous risks and is most recognized in the finance and insurance sectors. All these applications, including the numerous measures taken to mitigate current and emerging risks, have given governments, businesses and stakeholders a new view of the environment - the risk environment. The intervention by what is considered the evolutionary discipline of traditional risk management, known as enterprise risk management (ERM), takes a new and holistic approach. Experts describe ways of implementation through the use of frameworks, one of which, the Committee of Sponsoring Organizations of the Tread way Commission (COSO) ERM Integrated Framework, is discussed in this paper. This paper provides discussion on various concepts, theories, processes related to enterprise risk management. This conceptual review discussed the understanding, scope, process and challenges of Enterprise Risk Management. Communicating and monitoring risk management across the organization, best practices are also discussed in the paper. This conceptual paper explains ERM as the process, by which organizations in all industries identify, assess, control, exploit, finance, and monitor risks from all sources to increase value to its stakeholders.*

Keywords: *concepts, evolutionary, mitigate, risk*

1. Introduction¹

In the last decade, risk management has transformed from the traditional silo approach practiced by individual departments and functions to a holistic, coordinated and integrated process which manages risk throughout the organization. This integrated approach has become known as ERM. 'Enterprise wide risk management' means the removal of traditional functional, divisional, departmental or cultural barriers.

A number of drivers have contributed to increased emphasis on risk awareness and the need for a coordinated, enterprise wide approach. Drivers include globalization, the increased complexity of doing business, regulatory agreements/corporate governance advances, and greater accountability for the board and senior management to increase shareholder value.

These drivers mean that an organization and its board must have a thorough understanding of the key risks affecting the organization and what is being done to manage them. ERM offers a framework to provide this understanding and also to integrate risk management in decision making activity throughout the organization.

As the world of business becomes increasingly borderless, risk management becomes, likewise, borderless, and thus more complicated. Enterprise wide risk management (EWRM) aims to manage different types of risks and provide a framework for sustainable competitive advantage. It can help a company to stabilize cash flows, reduce its risk of insolvency, and focus more effectively

and efficiently on its primary business risks. The paper aims to contribute certain theoretical understanding on enterprise risk management in companies to sustain a competitive advantage.

The remainder of this paper is organized as follows; the next section starts off defining risk, followed by explaining the ERM framework in detail, challenges in implementing ERM, what are the benefits and limitations of ERM and lastly, why does the risk management process fail at times?

2. What is Risk?

A Risk stands synonymous with something unexpected and generally undesirable. It can be defined as 'a variation in an outcome from expectation'. If an outcome is known, it is not a risk. Risk can be calculated quantitatively. The risk management offers two alternatives in a broad perspective. Risk can be replaced with certainty. Alternatively, only the adverse risk can be replaced. Different instruments are available for risk management under these two alternatives. Risk comes into picture if we have a choice to make. The world remains dull if people do not take any risks. Nobody takes a risk if failure is certain. But to what extent one can take risk and manage it, to advantage the organization is a crucial question.

(Mitchell, V.W, 1995) [2] defines risk in terms of the probability of loss and the significance of that loss to the enterprise. Generally speaking, risk comprises the probability of a negative event occurring multiplied by how harmful that event would be (Macdonald, D, 2004) [3]. Risk can therefore be defined as a function of these components:

$Risk = f(\text{event, probability, impact})$

There are many models of risk management that focus on the selection of strategies to manage their risk. Typically

¹ Abbreviations and acronyms; ERM – Enterprise risk management, EWRM - Enterprise wide risk management, COSO - Committee of Sponsoring Organizations, IIA - Institute of Internal Auditors

the strategies employed include transferring the risk to another party, avoiding the risk, reducing the negative effect of the risk, and accepting some or all of the consequences of a particular risk.

- **Accept Risk:** understand the risk, probability of occurrence and consequences. The organization must be equipped to react if it happens.
- **Avoid Risk:** Organizations can change the scope or activity to avoid the risk. They also can insert preventative measures to ensure that the risk does not occur.
- **Monitor Risk:** Here the organization will have specific contingency plans ready in the event of a known risk occurring.
- **Transfer Risk:** This option allows organizations to outsource or transfer the risk and associated responsibility to other entities such as contract organizations and or insurance companies.
- **Mitigate Risk:** In this option organizations must work hard to ensure that preventative measures are in place to reduce risk.

3. The Enterprise risk management framework

The 2008, ERM Benchmarking Survey conducted by the Institute of Internal Auditors (IIA) and IIA Research Foundation's Global Audit Information Network, revealed that COSO's Enterprise Risk Management — Integrated Framework is the most commonly used framework to guide risk management efforts (COSO, 2004) [1]



Figure 1: COSO – ERM Framework

The four objectives are:

- I. Strategic (*high level goals, aligned with and supporting the organization's mission and vision*)
- II. Operations (*efficient and effective use of resources*)
- III. Reporting (*reliability of reporting*)
- IV. Compliance (*compliance with laws and regulations*).

These categories may be the responsibility of different Managers/Chiefs across the organization and address different needs. Responsibility for different objectives and related risks needs to be clearly articulated and communicated. The necessary resources must be defined for each organizational level, including each business unit. Integrating risk management into strategy, performance

management, training and development, and budgetary processes helps to assign responsibilities.

The COSO Framework identifies eight components which must function effectively for risk management to be successful. The eight interrelated components are:

- **Internal Environment**

This is the tone or culture of the organization, including the risk management philosophy and risk appetite. Risk management philosophy is the general attitude or approach an organization takes in dealing with risks. Risk appetite is level of risk that a company can undertake and successfully manage over an extended time period.

- **Objective Setting**

Objectives should be aligned with the organization's mission and vision and need to be consistent with the organization's defined risk appetite. The capacity for undertaking risk (*risk appetite*) will vary by company and depend on the organization's unique circumstances.

- **Event Identification**

These are internal and external events (*both positive and negative*) which impact upon the achievement of an entity's objectives and must be identified.

- **Risk Assessment**

Risks are analyzed to consider their likelihood and impact as a basis for determining how they should be managed. Risks are assessed on an inherent and a residual basis. COSO defines inherent risk as the risk to an organization in the absence of any actions management might take to alter either the risk's probability or impact. These risks may result from an organization's industry, strategy or environment. Residual risk is the risk that remains after management has responded to the risk. Management must decide whether residual risk is within the entity's risk appetite.

- **Risk Response**

Management selects risk response(s) to avoid, accept, reduce or share risk. The intention is to develop a set of actions to align risks with the entity's risk tolerances and risk appetite.

- **Control Activities**

Policies and procedures help ensure the risk responses are effectively carried out. Examples of control activities include segregation of duties, physical controls, IT controls, analysis of results versus targets and reviews by senior management/specialists.

- **Information and Communication**

The relevant information is identified, captured and communicated in a form and timeframe that enables people to carry out their responsibilities. Sources of information will be internal and external with the historic, current and projected information used.

- **Monitoring**

The entire ERM process is monitored and modifications made as necessary. A combination of ongoing and specific interval monitoring activities is required. Activities can include: reviewing operating reports for inaccuracies; identifying weaknesses in control activities by internal and external auditors; and senior management assessments of risk responses against targets. Specific interval monitoring

can occur at critical times, for example, reporting periods, or after unexpected events or outcomes.

4. Roles and Responsibilities

The following chart demonstrates the roles of responsibilities of parties involved in the ERM process:

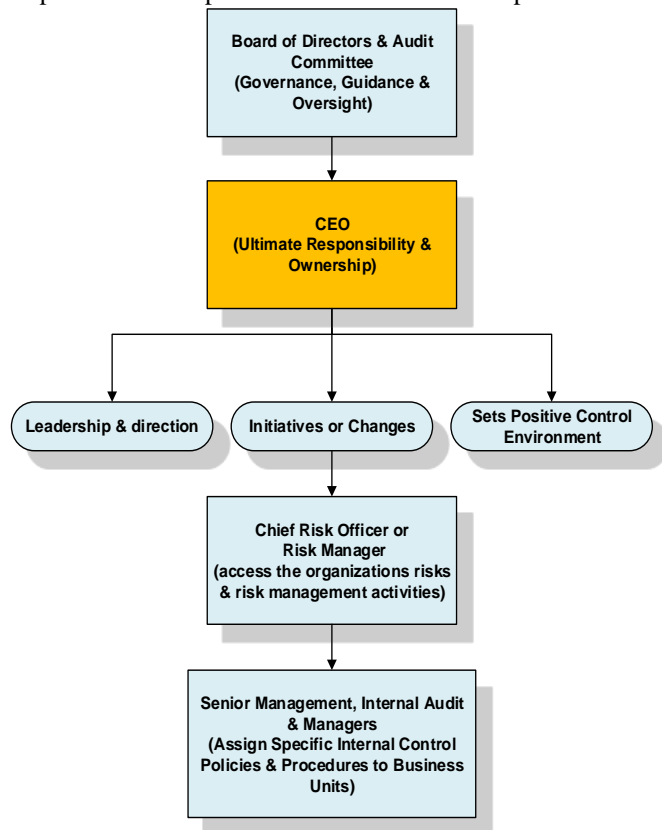


Figure 2: ERM Role of Responsibilities

As shown in figure 2, the key roles and responsibilities for ERM are explained below:

- a) Chief Executive Officer (CEO) - This is the ultimate risk manager for any organization. The CEO must assess the organization's enterprise risk management capabilities and lead any related major initiatives or changes.
- b) Board of Directors - The board has ultimate responsibility for the oversight of risk management, including reviewing risk management processes and providing direction on matters related to risk and internal control.
- c) Audit Committee - This is the committee responsible for examining the effectiveness of the internal control function. It has an important role to play in examining the exposure of the organization to a variety of risks.
- d) Chief Risk Officer or Risk Manager - This position leads the process of establishing and maintaining effective risk management activities across the organization.
- e) Senior Management - They have responsibility for assessing key risks, for reviewing risk management capabilities and for initiating any necessary changes.
- f) Internal Audit - This has responsibility for internal control and for providing independent assurance concerning the risk management process. Internal audit

forms an opinion about the soundness of internal controls to manage the agreed level of risk.

g) Managers and Business units - They manage day to day risks within their allocated areas of responsibility within agreed risk tolerances. Manager should also promote the organization's risk management philosophy and compliance with risk appetite to staff.

h) Some organizations will have a dedicated risk management function (*usually depends upon the size and industry*). The function could consist of a single risk champion, risk manager or a large department. The role of the risk management function involves:

- setting risk management strategy and related policies
- raising awareness of risk management throughout the organization
- building a risk aware culture with appropriate training and education
- designing and reviewing risk management processes
- co-ordination of risk management activities
- developing risk response processes
- reporting on risk externally and internally.

Adapted from Risk Management Standard - ALARM, AIRMIC, IRM [4]

5. Benefits and Limitations of ERM

The benefits of effective ERM include:

- protecting and building shareholder value through enhanced decision making by integrating risks and building investor confidence
- focusing management attention on the most significant risks
- a common language which is understood throughout the organization
- improved capital efficiencies and resource allocation
- reduced cost of capital through managing risk.

Limitations of ERM include:

ERM is a process or methodology for enterprise wide risk management. In common with most methodologies, it is not an exact science.

Factors such as human error, imprecise calculations, incomplete information and breakdown of internal controls preclude a board and management from having complete confidence in the effectiveness of ERM

The success of an ERM framework is dependent on a number of key factors:

- CEO and senior management commitment
- assignment of risk management responsibilities within the organization
- allocation of appropriate resources for training
- development of enhanced risk awareness by all stakeholders.

An ERM framework will not be effective if any of these factors fail.

6. Key developments in ERM

More recently, ERM has focused on:

- Alignment of the entire ERM process (*not just risk appetite*) with business strategy and embedding ERM into the culture of the entity.

- A greater emphasis on strategic risk rather than compliance with risk mitigation requirements.
- Enhanced internal risk reporting, as inadequate risk reporting can lead to a failure to fully integrate identified risks into strategic and operational decisions.
- Taking more intelligent risks to exploit opportunities. Progressive companies are using ERM as a tool to gain competitive advantage through being able to take on more risk for greater company returns. They need to manage risks in a way that will maximize the upside while providing protection against the downside.
- ERM technology, which has evolved at a rapid pace. For medium to large organizations, investment in innovative ERM technology can help to ensure that ERM processes are working effectively.

7. Why does the Risk Management process fail?

First, when the right information is not given at the right time to the right people, a gap is created between actual risk and desired risk. Secondly, if the organization fails when the costs involved in managing risk outweigh the benefits derived out of it. Thirdly, the risk management can fail by artificially forcing itself into the risk control category and thereby neglecting the potential efficiency gains across the rest of the company.

Companies simply do not see the benefits of risk management, outside the pure risk control box. Economics of scale and economics of scope are left unexploited, real options are left unrecognized, strategic opportunities are missed, positive NPV investments are ignored and this list goes on and on.

8. Conclusion

In the past, organizations addressed risk issues in a reactive and ad-hoc manner. Today these approaches are proved to be inefficient and outdated. We have to remember that failure of risk management results in an increase in the costs of financial distress and the opportunity costs of the projects foregone. When a firm starts faltering financially, the creditors demand higher interest rates and more collateral. Valued employees may leave the firm and suppliers may reduce the size of shipments. The stock market reduces the valuation of the share and clients may decline long-term contracts.

The findings in this paper show that there is a need for an integrated approach to enterprise risk management. It seems that ERM practices are not widely employed in industry and many organizations do not consider the consequence of risk. ERM is not a strategic priority of the organizations studied. Strategies are not defined, documented or communicated and insufficient resources are dedicated to achieve risk management goals. Also the study found that risk identification should occur at all levels in the organization. However many responding organizations do not have a formal structured process in place to enable this. The support and commitment of senior management are essential to successful ERM implementation. They must actively engage in the process

and delegate champions to create a culture to enable effective ERM. Benefits, Limitations and outcomes should also be measured. Lastly, if an organization has a strong ERP program that focuses on IT risks, this will secure positive returns for key investors and stakeholders for years to come.

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CUSTOMER ORIENTED DECISION MAKING IN THE INNOVATION PROCESS OF CERTAIN PRODUCT LINE

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Abstract: Decision making in the innovation process is a key failure point of many businesses. In a lot of companies there is no precisely defined criteria according to which are the decisions for future products made. In that way decision making becomes a random or intuitive process without certain expected results. Many businesses are in a position, where they can efficiently gather customer information and reduce the risk of decision making in the innovation process. The main goal of the article is to point out the possibilities of using information from customers and to simplify decision making in the innovation process that can lead to the creation of successful product lines with the aid of continuous communication of the company with the customers. In this paper, there are applied the theoretical foundations of decision making in the innovation process using customer information with the intention of creating new product lines. The topic is in the second part of the paper described on two case studies, first the Australian company Rode Microphones, which creates successful product lines of microphones and second the Yrobot project, realized at the University of Zilina.

Keywords: innovation process, decision making, product line, innovation, customer

1. Introduction

Understanding the needs and interests of customers in the process of product line development is vital to successful introducing of new products. Innovations according to Latka are new innovative solutions through which are the practical ideas implemented into new products. [6] These ideas are one of the basic tools in the competitive business struggle. [9] In order to achieve the best results, attention is drawn to managers' decisions on innovations and innovation opportunities. Decision making in the innovation process is based on input information. One of the sources of information is customer opinion and requirements. On behalf of a good understanding of described case studies, it is essential to define the theoretical basis in the field of innovation process, decision making and product lines.

1.1 Decision making

Decision making can be defined as a sequence of activities that:

1. identifies (discovers) and analyzes the problem as the subject of the solution
2. determines the possible way of its solution and
3. chooses the best way to solve the problem according to the selected criteria. [3]

Decision making as an important part of the innovation process includes variants (inventions) available to solve the problem. From these variants there are selected inventions (according to the criteria) that will continue in the process of realization of the innovation. Figure 1 shows a basic model of decision making that can be applied generally in every decision making process.

Customer relationship management (CRM) plays an important role in customer driven decision making, which creates and maintains close customer relationships. In this way, a sufficiently large sample of product users becomes

a significant factor (criteria) for future product innovations.

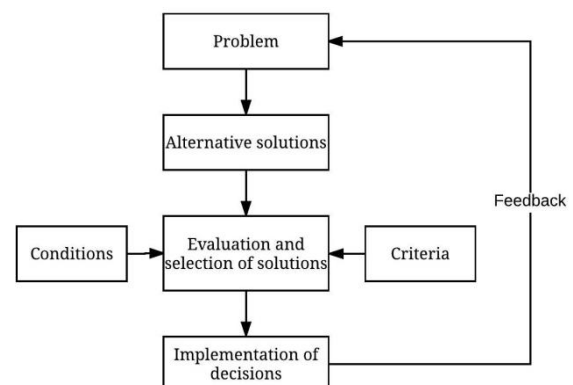


Figure1 Decision making model [3][1]

According to Kim and Chen CRM is based on the principle of integrating people, processes, and technology throughout a value chain in order to understand and deliver better customer value. In this case the better customer value can be represented by better product. [4][5]

1.2 Innovation process

The innovation process in companies is the development of an innovative idea (invention) that must be transformed into the competitive advantages of a new product in other processes such as (innovation opportunities, innovation). [10] The innovation process may also indicate the implementation of a new or improved product, accessory, or method. [6] The active use of the innovation process in enterprises can be found in those businesses that offer different editions of the product, or they make gradual changes in business processes and production.

Model 2 shows three key questions for organizing innovative activities that help to make informed decisions about implementing of innovations. If the idea can be realized, it is necessary to decide whether the innovation will be realized and implemented. An important part of this process is the archiving of innovations. Innovations that are not immediately implemented are postponed for possible later use. Lendel and Varmus emphasize that high innovation enterprises have to keep innovative ideas to prevent their loss or duplication. [8]

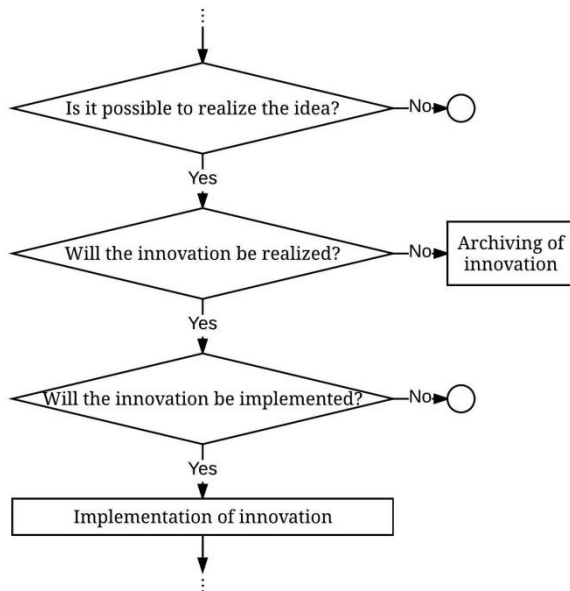


Figure2 Basic questions in the Model of organizing innovation activities [7]

Generating innovative ideas in a customer oriented approach to product creation can be done on the basis of customer experiences and opinions. In this process it is necessary to build the CRM system and maintain close relationships with customers.

1.3 Product line

A product line is a group composed of individual products that are in mutual relationships and perform similar functions. [11] In order to create a strong brand not only for the company but also for the product, product lines are created. Product innovations are thus reflected by adding new features to the base product, creating new products, or changing the facilities of the product to create product lines. In addition to building a product brand, the loyalty of users of previous versions of products is maintained.

2. Analysis of innovation process of certain product line

The issue of decision making in the innovation process can be presented on the example of the products by the Australian company Rode Microphones and the Yrobot project, which is realized at the University of Zilina.

2.1 Rode Microphones

Rode Microphones is a Sydney-based company that focuses on the sale of microphones and related electronics.

[19] The company pays great attention to the research, development and production of innovative products and new product categories in the field of sound engineering. Over the past 20 years, the company, led by founder and managing director of Rode Peter Freedman, has won tens of awards, particularly in the field of product design, export price and the price for the innovative manufacturing approach. [18] The Rode VideoMic microphone is a very good example for representation of a customer oriented decision making in the innovative process. This microphone is designed for filmmakers because of the ability to be attached direct to the camera. Rode VideoMic was launched in 2004 and during next thirteen years the company designed nine different edited products of this product line. [20] Freedman states that one of the most important sources of decision making was the customer opinions and research by Rode. [16] In another interview Freedman says that it is imperative to have the customers and their needs at the forefront of mind when designing any product. [17] The company is focused on monitoring of the customer satisfaction within the community of filmmakers, youtube creators and other microphone users. The main sources of the feedback were the largest e-shops of video tools, Rode Reel competition and Youtube. In research there was used information from product reviews by customers in world-wide e-shops. At the BH Photo Video shop there was listed 1900 reviews with a detailed evaluation of the Rode VideoMic product line with the positives and negatives by users that purchased the microphone. [14] At the Amazon store the number of detailed ratings was greater than 2000. [13] An important source of information about customer satisfaction with microphones was also youtube videos. Youtube is the place where a strong filmmaker community is built with a lot of product reviews and instructions. There was also created a questionnaire, that was distributed within the Rode Reel contest to filmmakers in an effort to determine the satisfaction of customers with Rode's products, find out what video technology they use and other details about the their needs. [21] Table 1 shows the results of decision making of the company on the example of five products from Rode Microphones.

Table 1 Rode VideoMic models and innovations

Model	Innovation
Rode VideoMic	basic model
Rode VideoMic Pro	body, preamp, weight
Rode Stereo VideoMic Pro	stereo capabilities
Rode VideoMic Pro Rycote	rycote mount
Rode VideoMic Pro Plus	safety channel, new cable, auto power-on, li-on battery, buttons, metal hot-shoe mount

The table shows innovations that have been implemented as a response to customer needs and complaints. After introducing the basic model of the microphone, the number of customers complained about the large weight and size of the microphone. Also, the Canon 5DmkII, which replaced many expensive film cameras, had a great impact on cinematography, but it did not have a sufficient

sound amplifier. In response to customer requests, Rode created a modified version of microphone – The Rode VideoMic Pro. As a reaction to other numerous complaints about the microphone mount system, the company released a new modified microphone with the Rycote Lyre suspension system that was more durable and effective. The latest product clearly illustrated customer perceptions of the company. After two years, the company released the VideoMic Plus microphone, which was a response to a number of criticisms of the previous model in comparison to competitors, as well as some of the problems that hundreds of customers described in reviews. This process of continuous monitoring of customer satisfaction and creating a product that responds to customer demand has also been expressed by Freedman, who says that Rode is able to bring new products to the market faster than the larger competition can rollout a new brand logo. [15] In this way, Rode creates an innovative process in which the opinion of a large number of customers is the criteria of choosing the right idea. The result of Rode's customer oriented approach is the leading position in some areas of sound technology and sales of more than 1 million units annually in more than 110 countries worldwide. [12]

2.2 Project Yrobot

Yrobot is a system developed at the Faculty of Management science and Informatics in Zilina in order to bring electronics, computer science and computer engineering to high school students. The system is not limited to the use of applications and features from the manufacturer, but can be programmed, expanded with new applications, and added custom extensions. [2] Similar to Rode VideoMic, Yrobot was designed in close collaboration with customers such as students and high schools. Described findings come mostly from the Yrobot project team. Several surveys were carried out to effectively edit the platform. Through interviews and questionnaires there were identified customers' requirements and needs. As designers have a list of distributed robots and each year they organize a contest involving platform users, finding information was easier and the results were quite specific. According to this information, the platform was upgraded to the latest model, which is distributed to more than 30 schools in Slovakia, the Czech Republic and Austria. [22]

Table 2 Yrobot models and innovations

<i>Model</i>	<i>Innovation</i>
Alfa 1 and 2	basic model
George	smaller wheels, camera, body, size
Yrobot v1	design, motors, wheel angle tracking, display, motherboard
Yrobot v2	USB AVR, LEDs, sensors

The first robot version was designed in 2010 and consisted only of a motherboard with a processor and 7-segment display. This robot was programmable via a serial port. On the basis of the students' requirements for the robot to move, a temporary metal chassis was created on the model Alfa later on which were placed two motors from the CD

drive. Used wheels came from a toy car. This robot was used for teaching at Gymnasium Zilina. On the basis of cooperation and feedback from students and teachers at school, a new concept was created in 2011, called Robot George. This model had a modified design and has been designed to make the base plate a chassis function, with wheels being tailored to this platform. Following the dissatisfaction of many users with robot movement that could not be well measured and controlled, new motors and wheels were used on the platform to track the angle of rotation with the help of the sensor. In addition, several minor deficiencies have been modified at the same time. In the last amendment, the designers responded to signaling problems because survey students were dissatisfied with the possibilities of checking the programs that were embedded in the platform. Similarly to the Rode example, Yrobot created close customer relationships and offered them the opportunity to express dissatisfaction with the current state of the product. Based on the feedback and effort made to communicate with customers, it was possible to create a process in which new and changed products were created over the course of a few months. The success of the project was awarded as Best Conference Demo on Embedded Design in Education and Research Conference as well as by the Volkswagen Slovakia Foundation, which subsequently sponsored further development of the platform. [23]

3. Conclusions

Decision making in a customer oriented innovation process is a topic closely related to the best practice and methods used in successful businesses. Not every business and business area has the ability to communicate with the customers as close as two described examples. Nonetheless, it is a great challenge for businesses to look for customers and to orient the processes of innovation and decision making to their views. Customers are of great importance for creating new products and correcting the shortcomings of current products and it is important for businesses to realize the benefits and value of feedback. Customer discontent and its correct recording and understanding can become a valuable resource for innovation decisions. According to the above examples, especially in Rode Microphones, a statistically significant number of customers can significantly influence decision making about innovations in an enterprise.

On the example of sample companies, it is also possible to see that successful innovations do not always have to make big changes or create a completely new, non-competitive product. A small product innovation can often decide on customer preferences if it is a response to a particular customer's need. Additionally, designing complex innovations can reduce the probability of implementing the innovation. The Rode VideoMic case also illustrates the importance of quick response and shortening of the innovation process. Making small changes in a fast-response decision making process can also reduce the responsibility of managers who compete with the risk of failure of the proposed innovation. In this approach to production, it is also important to point out the condition

of sufficient production capacity and the possibility of rapid processing of the production process.

The Rode Microphones case also illustrates the ability of large businesses to achieve a fast-responsive innovation process if setting up decision making and production correctly.

Acknowledgement

This paper was supported by the Slovak scientific grant VEGA 1/0363/14 Innovation management - processes, strategy and performance.

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IMPORTANCE OF ONLINE REPUTATION MANAGEMENT IN AUTOMOTIVE INDUSTRY

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Abstract: The main topic of this article is the importance of online reputation management in the automotive industry. Reputation management is an important part of the activities of a successful and prosperous automotive company. The reputation built by employees, customers, management and other supporters is a topic that companies should pay attention. The special attention should be paid to online world, that cannot be fully controlled and requires exclusive access, care and activities. Right managing online reputational management activities for automotive companies can make the difference between successful and average market players in the future.

Keywords: reputation, online, image, strategy, automotive

1. Introduction

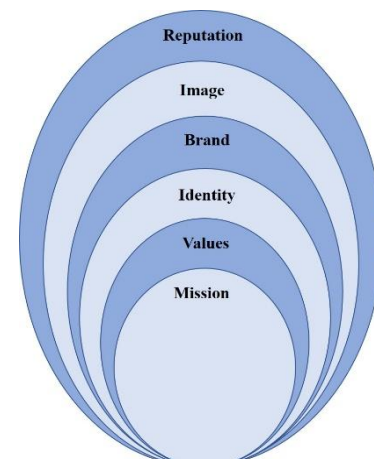
Trends, approaches, opinions, or tools in reputational management. All of them significantly changed in the 20th century due to the influence of the online world. Individuals, businesses, communities, employees, or customers have started to look differently on reputation activities. Almost every single verified tool requires consideration of the impact of time, speed and availability of information flows in combination with technologies. All these aspects create an online world where information lives in one's own life, and the reputation of the business by industry, including automotive companies, becomes fragile. At the same time, new opportunities and opportunities are opening.

1.1 Corporate identity and image

Corporate identity forms the cornerstone for forming "original," without which a company can not carry out its activities properly. We can understand it as a certain uniqueness that includes important business information, company history, visions and missions, moral and ethical values from people who are involved in the functioning and leading the company. The company should try to implement it in a company strategy that will create a consistent and comprehensive picture of the functioning of the whole. It further notes that the concept of corporate identity is often confused with the concept of corporate design. [6] One of the most comprehensive definitions is provided by a team of authors who compares corporate identity to a means of communication that holds out the organization both externally and inwardly. It includes both formal and informal rules leading the team. It has a sense of belonging, organization history, strategic documents, organizational rules, and yet it is difficult to see it as a purely formal phenomenon. [2] Kotler understands the image as a set of factors, a literally complex set of impressions, perceptions, opinions, and attitudes of individuals towards the enterprise itself. [5]

1.2 Reputation and brand

The first impression can be that the brand and the reputation are similar in the same way. Both terms refer to loyalty and customer friendliness. But the brand is targeted at customers and what the company promises to them. On the other hand, the company-focused reputation is oriented on the credibility and stakeholder relationship. [3] Businesses or individuals can influence brand perceptions, but do not determine or dictate routing. Every person processes the information obtained differently and everyone has different experiences that influence the interpretation of the information. [1] Company with excellent branding and not good reputation may have problems with recruiting talented workers and staff turnover versus a company with a reputation that can have a problem with product marketing. Since reputation is not exceptional, it is a prerequisite for the long-term success of the company. The brand in today's information period can not mask bad reputation and does not provide a long-term perspective without good reputation.



Picture 1: Comprehensive view of reputation and related terms

1.3 Reputation in the online world

The most critical reason for measuring reputation in the online world is the crisis. It happens when somebody does say something wrong about the company on the Internet, and the company is not supposed to defend it because it does not know about it. Such a situation needs to be addressed as soon as possible. Company can use monitoring tools such as Mention Google Alerts help. The company should also be interested in their customers, who like what they need, what sites they visit, and what social networks they use, by using Facebook Insights or Followerwonk. It is equally important to have an overview of what is going on and how our competitors communicate with their customers, and we may find out what they are doing better. [7] Google is a great search engine, because it is the most popular in the world. It is suitable for online monitoring. The benefits of browsing Internet forums and analyzing keywords. It is important, but think in the language of people whose words are sought. [7] In Slovakia, Facebook is the most popular social network. The number of pages or groups on Facebook works like a "book of desires and complaints". It is a relatively inexpensive way, how to get feedback. The fan page can be partially replaced by the classic one customer center if the fan page has enough members and there is a reasonable speed response. To manage fan networks, large businesses (such as McDonald's) hire PRs agencies, but even the smaller ones are covering it within their own capacities. [8]

1.4 Online reputation management

The term on-line reputation management can be considered as mix of marketing activities on the Internet, the purpose of which is to protect the company's name in the online environment by preventing potential problems with the solution and their subsequent elimination. We can understand it as monitoring and managing the internet reputation of a company, brand, or individual. The goal is to eliminate malicious information in Internet search engines. Many times, we can also find the term "search engine reputation management" called SERM, which includes the following main activities:

- Crisis reputation management,
- Evaluating the results of monitoring,
- Communicating with users,
- Internet and users monitoring.

Customers and end consumers are interested in the products and services that the company offers, but there are other significant groups of people who are looking for reputation

company. These groups include, for example, business partners, competitors, journalists, or potential employees. At present, customers are increasingly choosing to buy based on what they read about the company, the product, or they are reading on the Internet. That's why it is important to work on internet reputation and positive reputation. The company should focus on the use of on-line reputation management tools to ensure the construction and protection of its brand. When monitoring on-line environments, emphasis should be put on the quality of online communication and customer care

through the various channels of communication, the greatest difficulty in creating web sites.

1.5 Online reputation management tools

Tools in online reputation management serve to diagnose, identify and group the most searched phrases, analyze basic results, and create metrics. After identifying entities with a similar focus, we perform a detailed analysis of our search results. It is important to focus on the same search results of similar entities that serve as a model for further process steps. [4]



Picture 2: Innovation of economic and management tools [4]

The online reputation management tools can also include online marketing tools through which the company can communicate with the target segment faster and more efficient. In addition, these tools also have a significant effect on the overall management and management of the financial situation of the company. Leadership and sales are realized by SEM (Search Engine Marketing), which is an active approach focused primarily search engine marketing. SERM (Search Engine Reputation Management) consists of SEO and PPC tools. Using SEO tools allows you to implement unplanned search engine results, while PPC is only paid search results.

2. Online reputation in the automotive industry in terms of various groups

In the automotive industry, a reputable questionnaire survey was conducted in the company - one of the key players on the automotive market. This company is characterized by a focus on the middle and lower class of customers. They are primarily concerned with equipment, design and a reasonable amount for cars. Opinions were found in students, automotive fans, randomly assigned, and vehicle owners of the unnamed brand. Respondents are from northern, central and western Slovakia, with representation of all ages.

The group of students expressed about the company as innovative and stabl. Driving experience does not exist, but they are well informed about unnamed automobile company. Sources of information are different, but mostly come from offline environment. This is primarily about references from family and friends, television and magazines. They perceives company mostly from the offline world. They are not informed about internal

functioning of the company. They also do not perceive information about the company's beneficial activities within the region where it operates.

Auto moto fans search for company information resources more intensively than students. Also, their amount is considerably higher. The sources from which they draw information are diverse. These are television, specialized magazines, reviews, familiar experiences and social networks. Their driving experience and industry insight as well as the offer of unnamed automotive company is wide and corresponds to their interest, enthusiasm and passion for auto-moto. In addition to the current trends, design, news, and latest information from the automotive world, they are interested in the company's public service activities. They consider them to be inadequate and would like to develop and inform them more.

In the group of randomly asked men and women of different age and interests, the unnamed automotive company is considered as innovative and stable. The cars produced by the company are branded as quality and reliable and can be bought at a favorable price. More than trends and news are pursuing publicly beneficial activities. All the information is primarily from family and friends. To a lesser extent, they draw information from television and print.

Vehicle owners of the unnamed brand have decided to buy based on the price. In addition to the price, the factory and the equipment and the spaciousness of the car were important. Last but not least, this was the experience and customer reviews. More than novelties and trends follow the company's benefits to the region in which they live, as well as job offers creation. Many owners work in the car company and most of them also evaluate this criterion positively.

3. The importance of online reputation in the automotive industry

Among the most common ways in which representatives of different addressed groups know about a company, its activities and then create an image or shape the idea of buying are three of the most striking. It's a review straight away from friends and family, TV and Print, and at the end of an online way - through social networks and the Web.

Regardless of age, interest, or gender, many people spend their time in the online world and especially on social networks. Without the incentive from the company, it is likely that they will begin to search for information on publicly beneficial activities, news, responsibilities, and other elements low. The online environment and social media can make it easier for the company to answer questions, concerns or comments from stakeholders. It is in the interest of a prospective and successful business to inform and be transparent about its corporate social responsibility activities. The quality of the content and the information provided can increase the chances that users will draw their attention.

Thanks to audience engagement, widening, and challenges to join the discussions, suggestions or research on corporate responsibility activities, the automotive company can bring current and past activity closer together. It also

gains inspiration and space for new business. If an enterprise lets people talk and listen to them, they get views and useful opinions from a variety of sources. Online space offers many tools, applications, networks and media to make it easier for companies to interact with current and potential customers, partners, and the public. Last but not least, it is necessary to highlight the results of society, to show goals, progress over time and to communicate milestones achieved. Thanks to the electronic annual report, one of the sources of this type of information, the public can be informed about the activities and results of the car company over the past period. It is important to be aware that when it comes to communicating corporate social responsibilities activities, they are people and not the business who should talk about them the most, so the company should create space for them.

4. Suggestions for approach to solve different situations in the online world

Situations in the online environment cannot be corrected and managed as it is in an offline world. It is often the case that employees, customers, auto-moto supporters and the public are not only involved in official sites and in official groups established, managed and monitored by the company, but also in informal groups. It is in the interest of the company to take into consideration, in addition to its own sites and groups, and positively to influence unofficial sites, groups and discussions.

The most critical reason for monitoring and managing reputation in the online world is the potential crisis. It happens when somebody does not say something good about the company on the Internet, and the company is not supposed to defend it because it does not know about it.

If negative contributions are found, they should be reviewed. The origin, the reality and the intention of the author are important. Sometimes it may happen that the posts act as offensive, but it is just a satire or a hidden humor, and the exaggerated reaction could make the situation even worse. Regular monitoring and analysis brings some feedback that will keep the company constantly reputable, will be able to predict and avoid crises and identify potential problems in a timely manner. Internet options are huge. They facilitate communication with businesses and / or with the public. On the other hand, it also brings some threats to value and branding.

The crisis on social networks lasts as long as the company does not resolve it. If they appear dissatisfied with the social network, the web, or the discussion forum, the company cannot ignore it and wait for the fans to stop be interested to their problem. Marketing staff, administrators, or employees who get the same first name can take three different approaches.

The first one is passive, with a typical answer being the vague formula of how the company cannot be spoken about the situation at present, or the matters at the stage of verification. Such an approach may lead to a negative attitude towards the author of the post, and then he or she will come to rely on another way - through other online channels, or even get this information in offline media.

Such a solution results only in the negative consequences of dropping fans, interest, positive opinion, but especially the possible reduction in customer numbers and bad reputations.

The second is an active approach that combines attack and defense activities. Blank branding is more of a damage than a benefit and nothing can be resolved. Also counterproductive is the deletion of negative posts or comments that only trigger another wave of negative comments where users criticize this approach. In such cases, efforts must be made immediately to resolve the problem of a dissatisfied fan. It is essential to have a close approach, a quick response, and not to admit the mistake. A good light throws when the page administrator's signature is left in the comment.

The third approach lies in trying to prevent such situations. The key is to build relationships with customers, employees, car moto fans, as well as the public. They need to ask for their opinions to feel necessary, and the business learns information that can help them improve business. On social networks, rules must be respected as a friendly attitude towards fans, a quick and effective response to their criticism, praise, suggestions or questions or complaints.

4. Conclusion

The importance of reputation and reputational management is currently taking on importance not only in the automotive industry. An unnamed company that represents the automotive industry has not shown in a survey, that it is paying enough attention to reputation in the online environment. It is precisely this environment that has great potential and offers plenty of opportunities to use different tools to monitor or gather information. An automotive company operating within the region actively engaging in its functioning and development has lot of to offer even in the online world. It is appropriate for the public to find out about its activities. At the same time, it can draw inspiration for further activity. The importance of reputation management in online activities also increases the need to communicate in real-time with employees, customers, fans and the public. The company should not wait for the release of information via television or print. Also, do not have to wait for feedback and reactions. In the online environment, he can immediately communicate, respond or defend or thank you.

5. Acknowledgement

This article is supported by the Slovak Research and Development Agency under the contract No. APVV-15-0511.

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THE IMPACT OF SPONSORSHIP ON THE REPUTATION OF THE SPORTS CLUB

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Abstract: *Sponsors are one of the most important stakeholders in sports clubs. They can basically build or ruin whole sports dynasties and have enormous impact on reputation of clubs they support too. Paper includes theoretical basis of the position of sponsorship in marketing and reputation of sports clubs and athletes and the case study about influence of sponsorship on reputation in specific sports club.*

Keywords: *sponsorship, sport, sports club*

1. Introduction

From the perspective of sports club marketing, stakeholders can be divided into four basic groups. Active and passive members, fans, sponsors, and relevant government authorities [1]. Sponsors can directly influence name or jersey of the clubs, which does not always meet the positive feedback of the fans.

1. Reputation

Reputation represents an overall view of the past performance of the company and its results. It describes the company's ability to bring value to several stakeholders. It measures the position of the company in relation to its employees, as well as in relation to all the interested parties within the competitive as well as the organizational environment [2].

The most important aspect, very close to reputation, is trust. The reputation of the company is based on trust. At the same time, however, it is also possible to say that trust is based on a good reputation [3].

2. Sponsorship in sport

Sports sponsorship is a mutually beneficial relationship between the people or organizations in which the sponsor provides the sponsor with certain benefits, exchange for joining himself or his organization with sport, events, sports equipment or athlete [4].

2.1 Sponsorship as a part of marketing and communications mix in sport

The individual elements of the marketing mix should be combined and coordinated. For traditional 4P, that includes product, price, place and promotion, it is necessary to add two other elements, such as sponsorship, as part of the promotion and service that is part of the product. However, the fundamental importance of elements in sports marketing provides them with an equal status with the original 4P [5].

The essential importance of sponsorship in sport is expressed by being both a part of the marketing and communication mix. As a marketing communication tool, is sponsorship effective tool to reach a broad audience. By sponsorship, the organization can appeal to existing and

potential customers, present and potential stakeholders, employees, partners, the community, and the public in general. Fundamentals of sponsorship are two separate, but mutually related activities. In exchange for sponsorship, the sponsor gets the right to be associated with a sponsored organization and at the same time to communicate this relationship to the target group of customers. [6] [7]

2.1 Sponsorship and social media in sport

In relationships athletes-sponsor, the social media have a significant role too. It allows sponsors a better opportunity to present their products. It increases, not only the sponsor's income but, of course, the income of the athlete or club.

Social media can be used for communication between a club or sportsman with fans and for advertising at the same time. Sponsors seek the most successful athletes to link name of their brand to name of those athletes. Social media represents a revolution in sports marketing. Sports clubs and athletes, regardless of their history, wealth and popularity, should benefit from social media marketing. By using social media can clubs and athletes give fans a closer look at themselves and that is exactly what fans want. Possibilities are unlimited. [8]

Social media can be used as a tool for avoiding expensive market research too. It is the most direct way to reach out to a specific community. Sports clubs and athletes have a huge impact on specific groups of people, what offers enormous potential for sponsors. In the world of social media can sponsors present their products and services. Potential customers do not have to visit a shoe store to see the most popular models of shoes. They do not have to visit restaurant to know, that they can meet their favorite athletes there. They can find this information online.

3. Case study: Influence of sponsorship on reputation of basketball club BC Prievidza

The case study describes the Slovak basketball club BC Prievidza and its sponsors and the way how strategic sponsors influenced reputation of club during the 2015/16 season.

3.1 BC Prievidza

Nowadays is Basketball club BC Prievidza considered as one of the biggest clubs in the indoor sports in Slovakia. With more than 2000 average per game attendance it is the most visited sports club and the strongest sports brand in district of Prievidza too. BC Prievidza have won six Slovak championships and reached finals 4 times since 2012.

3.2 Categories of sponsorship

During 2015/16 season BC Prievidza cooperated with more than 50 sponsors. Based on their common features, they can be divided into three categories. The first offered financial resources, second material resources, and third free advertisement.

The least important sponsors were promoted in promotional materials, on the club's website and during games. More important sponsors might have used players for their own marketing activities. Strategic sponsors might have directly influenced the reputation of the club. It is mainly about color combination of jerseys or logos on the floor during home games.

3.3 Financial resources

The sponsors of BC Prievidza were betting company Niké, automotive supplier Brose and the city of Prievidza. Their names and logos were basically everywhere.

Gym was, from beginning of the cooperation of club and company in 2012, named Niké arena. Large banner of company, picture 1, was located on the outer wall of the gym.



Picture 1: Logo of company Niké on the wall of gym

Directly on the floor were the logos of all three key sponsors. It should be noted, that they logos were on the floor, not only for basketball games, but permanently. Thus, the basketball sponsors were promoted during all sports events in gym, which was a huge added value.

Similar situation existed with jerseys, picture 2, where were dominant logos of the biggest sponsors again. Unlike the logos on the floor, which the fans have not noticed anymore, with jerseys was a major problem during 2015/16 season. Brose required the red color of the jerseys. This color has never appeared on jerseys of BC Prievidza and it did not match with official colors of city

of Prievidza too. This step met with a huge dislike from fans, who even after several months after start of the season did not forgive this change to managers of the club. So social networks and discussion forums were spammed of contributions from dissatisfied fans. What negatively affected the reputation of the club.



Picture 2: Jerseys of BC Prievidza during 2016/17 season

3.4 Material resources

The gym North gym was free of charge for players of BC Prievidza players. It was also supplier of nutritional supplements for the club. Basketball players attended only this one commercial gym, which is a great advertisement for the North gym to attract more customers. Players also participated in the promotion of new products from the nutritional supplement category. Picture 3 shows presentation of the products by BC Prievidza player Richard Körner, NHL player Andrej Sekera and bodybuilding champion Peter Kováč.



Picture 3: Promotion of the sponsors by player of BC Prievidza

3.5 Free advertisement

Companies with the potential to promote other products and services, such as televisions or radio stations are the ideal partners for mutual advertising. The same partnership used BC Prievdza too.

Shopping mall OC Korzo, located near Niké arena, offered places for banners and city lights to the club. Visitors of shopping mall could see schedule of BC Prievdza or team photos on various places inside and outside of mall. For this free advertisement could shopping mall organize all official autograph signings of the club.

4. Conclusions

One of the most important stakeholders in sports clubs are sponsors. Through their financial and material resources, they directly decide on the competitiveness and results of sports clubs and athletes. The high correlation with reputation is mainly related to the fact, that reputation represents an overall view of the past activity of the company (sports club) and its results.

Sponsorship is providing certain benefits, exchange with a sponsor linking sports, sports clubs, athletes, events... Various sports clubs have different levels of sponsorship. Typically exist three main types: financial resources, material resources and providing free advertising.

Smaller sponsors cannot significantly influence the reputation of sports clubs, but with strategic sponsorship is the situation fundamentally different. Changing the provided financial resources cannot only strengthen the club, but also weaken it and thus worsen its reputation. It is quite common, that the most important sponsors may have their name right in the name of the club or name of the gym and can also influence the design of the logos or jerseys, which the fans are particularly sensitive to. As in the case study, the change of any long-standing graphic or color combination initially almost never meet with a positive response from the fans, despite the fact, that it provides higher financial or material resources for the club. This has vital impact on the reputation of the sports clubs.

Acknowledgements

This article is supported by the Slovak Research and Development Agency under the contract No. APVV-15-0511.

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IDENTIFYING THE MAIN ELEMENTS OF THE INNOVATION PROCESS

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Abstract: *The aim of the article is to highlight the need to implement innovations in companies and their support in management. Emphasis was placed on identifying the main elements of the innovation process based on a detailed analysis of professional and foreign literature. Well-defined innovation processes are the basis for innovation. These facts are supported by a model that contains the main elements of the innovation process and its information security. Contribution can help managers effectively access and manage innovation processes in companies.*

Keywords: *innovation, innovative management, innovation process, the main elements of innovation process*

1. Introduction

A company that can accurately identify the requirements of its customers, obtains the necessary information to satisfy them and act on the basis of this knowledge, gains a competitive advantage. This is what that the long-term success of the business depends on and, in general, it helps innovation.

Therefore, for an innovation to be effective, an innovation process is needed. However, the innovation process is relatively costly and there are many risks. Its bases are identified processes such as management, collection, and so on. An important part is also information security of innovation process.

2. Innovation

Nowadays, in globalization age and in a turbulent business environment, businesses try to maintain their competitiveness. Innovations are one of the key elements to achieve this and therefore become a priority for business. Many foreign as well as domestic authors agree on the need for innovation and, as they themselves claim, innovations are now the key to success.

At the beginning of examination of the selected issue it is necessary to define basic terms. One of terms is innovation and it is defined on the base of the study of scientific literature (domestic and foreign) in the following tab. 1.

Table 1 Definitions of innovation

<i>Author(s)</i>	<i>Definition</i>
Cooper, 1993	Innovation involves the use of knowledge to generate and practical application of a new, beneficial idea.
Crawford, 1996	A common feature of innovation is the change in industry, especially in technological development and its application in products, production processes and services.
Čimo, Mariáš, 1994	In a complex way, innovation is a purposeful, dynamic development process that results in a positive change aimed at improving the reproduction process and fulfilling social needs.
Tureková, Mičieta, 2003	Innovation is a practical transfer of ideas into new products (products and services), processes, systems and social relationships.

Galanakis, 2006	Innovation represents the creation of new products, processes, knowledge or services with new or existing scientific and technological knowledge that provide a degree of novelty, either for developers, the industry, the country or the world.
Košturiak, 2009	Innovation is a process of generating, transferring, and implementing ideas into a practical application that generates a leap-like qualitative change, and the customer will appreciate it as a new added value for which it is willing to pay.

3. Innovative management

Innovative management is based on classical management, its theory and practice. It is interconnected and very closely related to marketing, logistics, human resources, strategy, overall business direction, etc. Innovative management is the management of an innovation process that is typical of its unpredictability as it requires specific management tools. At the same time, it often creates resistance to something new in the enterprise. According to Hrašková (2008), the structure of innovation management can be subdivided into the preparation and implementation (procedures, methods and techniques), managerial activities (core managerial functions) and managerial behavior (human creative activity - creation of innovation).

At present, there are different approaches to innovation management. However, in practice, managers often decide on the basis of their own skills and experience. Basic approaches to managing innovation include the Value Management System (VMS), the value of which, according to Gráca (1979), has interdisciplinary meaning (it is used in several disciplines).

4. Innovation process

The process can be defined from different perspectives - manufacturing, transformation, chemical, biological and many others. From business perspective, it is often business processes that are characteristic of workflow and activity within the enterprise / organization. The innovation process can then be defined as a set of activities that "includes activities from research, through application of its results to commercial exploitation". It is a process from the very idea, invention, through the implementation

of innovation (for example modification, product / service improvement) to its marketing and evaluation. Innovation of products and services is mostly a quantitative or qualitative change and its main task is to bring "something new", e.g. penetration into new markets, addressing new customers, competitiveness, and so on. (Zaušková, Loučanová, 2008)

Chesbrough (2003), unlike other authors, emphasized the openness of the innovation process. In his view, the closed innovation process is very demanding to maintain in both time and financial terms.

On the basis of the detailed analysis, it can be stated that a significant part of the authors is involved in the innovation and innovation process. Various authors emphasize different parts and elements of the innovation process, ie:

- Adair (2004) puts emphasis on thinking, collecting, developing, creating and implementing ideas,
- Roffe (1999) puts emphasis on thought generation, collection, initial application (prototype), realization of feasibility study and creation and implementation itself
- Zaušková and Loučanová (2008) put emphasis on production, development of ideas, research and development, innovation program, survey, business analysis, creation and implementation of innovations, commercialization and realization of the use phase,
- Gregor and Mičeta (2010) put emphasis on learning, producing and collecting ideas, feasibility studies, research, creation and implementation and evaluation,
- Tid and collective (2007) put emphasis on learning, producing and collecting ideas, exploring, business analysis, and making and implementing itself,
- Skokan (2004) puts emphasis the need, production and collection of ideas, exploration, creation and implementation, commercialization and evaluation,
- Vlček (2008) puts emphasis on need, creative activity, production and collection of ideas, research and development, initial application (prototype), business analysis, creation and implementation, commercialization and feedback,
- Dvořák (2006) puts emphasis on creative activity, production and collection of ideas, research and development, initial application (prototype), business analysis, creation and implementation, commercialization and feedback.

Based on analyzing the facts, it can be said that elements such as thought generation, collection, implementation and commercialization, business analysis, research, science and research form the basis of innovative processes.

6. The model of innovation process

Based on the analysis of the literature and the revelation of approaches to the innovation process, the model of innovation process (Fig. 1) was created. The innovation process is highlighted in red and is a typical sequence of activities concentrated on the recognition and exploitation of innovative opportunities, the subsequent realization of innovation and its evaluation.

The innovation process includes several important elements, data collection and innovative ideas presented by

Adair (2004). The process is constantly recurring, and the feedback and assessment highlighted by Gregor and Mičeta (2010) and Fuld (2007) are also significant. Roffe (1999), starting with Roberts (1988), in his innovation process appealed to the creation of a prototype of innovation, while stressing the realization of the research in the field. This section is undergoing a review process. Chesbrough (2003) emphasized the need to open up an innovation process, so called degree of openness. It is another important element that allows the flow of information from the inside of the enterprise, but also its surroundings (internal and external information).

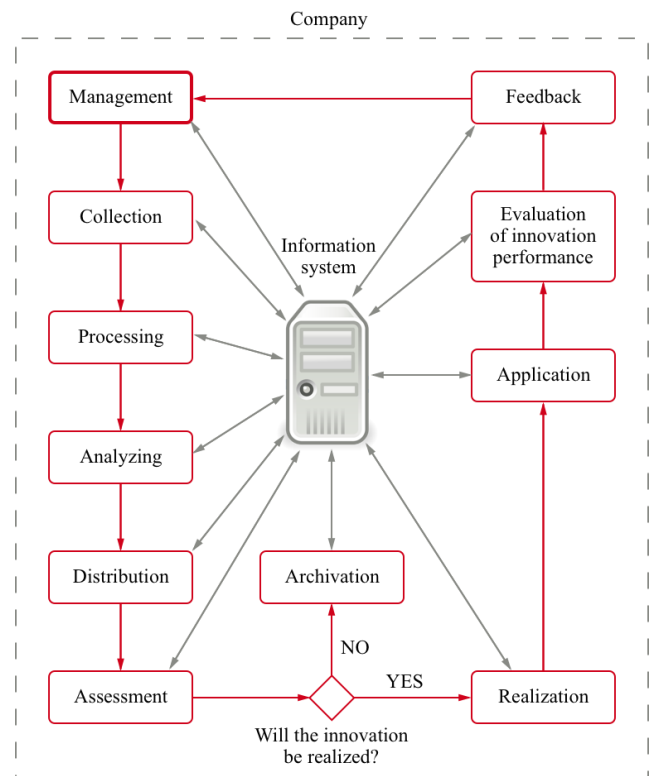


Figure 1: The model of innovation process

6. Conclusions

The basis of the proposed model is an innovative process that takes into account the emphasized areas of individual authors in the scientific and professional literature. These are, in particular, the elements of the innovation process and its openness. It emphasizes the need for management, data and information, information security of processes. The proposed model of innovation processes should help management in:

- effective decision making in the innovation process,
- effective innovation management,
- increasing the number of innovative ideas,
- increasing the number of innovative opportunities,
- increasing the competitiveness of the company,
- increasing the abilities to rapidly react to changes,
- increasing flexibility in a constantly changing market environment,
- effective work with information,
- increasing innovation performance of businesses.

Acknowledgements

The paper was conducted within the scientific project: VEGA No 1/0363/14 Innovation management: processes, strategies and innovation performance.

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THE REPUTATION AND REPUTATION MANAGEMENT OF SLOVAK GAMBLING INDUSTRY

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Abstract: This paper focuses on the Slovak gambling industry and its reputation. Because of the controversial nature of gambling, the public perception of the gambling industry is problematic all around the world. The negative reputation of the gambling industry in Slovakia reached the critical level in 2015 and it resulted in a public pressure for a ban of gambling in some areas. The main goal of this paper is to analyze the Slovak gambling industry and its reputation and to determine some of the causes of the negative reputation. It also focuses on the tools of reputation management that are used by the industry to improve its negative reputation in the eyes of the public.

Keywords: reputation, reputation management, identity, image, gambling

1. Introduction

Reputation is an important resource for every business or an industry as a whole. Negative reputation of the whole industry can directly influence the operation and revenue of the individual businesses. This effect can be clearly seen in the situation of the Slovak gambling industry. Gambling industry in Slovakia has been legally running and growing for almost 30 years. With its growth, the public image and reputation of the industry has been getting more and more negative. The extremely negative reputation resulted in strong public pressure for a ban of gambling in some local areas in Slovakia. Some of the Slovaks who were unsatisfied with the gambling industry in their country created a voluntary public initiative focusing on a global ban of gambling. Initiative reached its goal in several Slovak towns including the capitol city Bratislava, which is a center of gambling in Slovakia.

Local ban of gambling has a clearly negative impact on the operation and revenue of the individual gambling businesses. All this negative impacts and public pressure came from a negative public perception and reputation of the industry in Slovakia. Initiatives for a ban of gambling caused a public discussion about gambling in Slovakia. This public discussion gave space to representatives of the gambling industry to engage the public and manage the reputation of the industry.

2. Reputation and reputation management

Based on a work of Charles Fombrun reputation of an industry can be defined as a collective representation of the past actions of the industry and its results. It describes the industry's ability to create value for its stakeholders. Reputation represents the internal perception of the industry by its employees and businesses, but it also represents the external perception by industry's stakeholders in the competitive and organizational environment. [1] This is one of first and most basic definition of reputation modified to conditions of the whole industry and not only a single company. Definition clearly establishes two main aspects of reputation: the internal image of the industry and the external one. These

two aspects are most commonly known as the identity and image of the industry.

Other authors argument that the basic 2 aspects don't sufficiently cover the area of reputation and add some additional aspects. For example, paper focusing on reputation in practical conditions modifies Fonbrun's definition of reputation and adds another aspect called personality. [2] This three-aspect model of reputation also takes in account the difference between the image communicated by the industry to public and the actual internal image of the industry. Based on this paper the model of reputation looks like this:

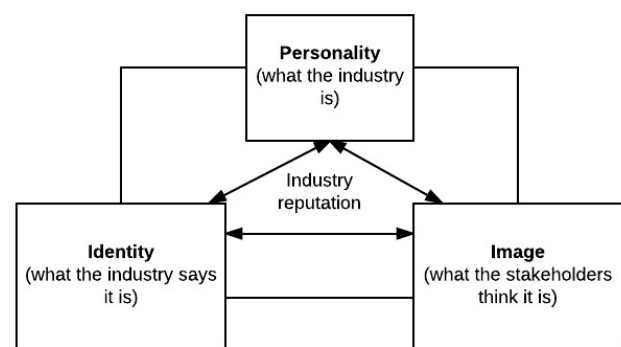


Figure 1: Model of reputation [2]

2.1 Identity and image

When analyzing reputation of the gambling industry, the paper will mostly focus on identity and image of the industry. To be precise the image, which the industry is communicating about itself to the public (identity) and the public perception of the industry (image).

Identity can be also defined as the sum of opinions and approaches of the industry's members. This means the gambling businesses and its employees. Identity answers the question "who or what we are", it is an internal opinion of the industry's members about the character and essence of the industry. Through identity the industry mirrors its central and consistent characteristics and by this it

distinguishes itself. Industry can use its identity to communicate its core and consistent values with the public. This way public can better understand the industry and its internal processes. Based on this the public can modify its perception of the industry. [3]

On the other hand, the image can be defined as the public perception or the impression caused by the industry. In the narrow sense image is a sum of public opinions, sentiments and experiences regarding the industry, its impacts on the society and its services. [4]

2.2 Reputation management

Reputation management is a very complicated, but also a very important activity for every business or industry. Even though sometimes it is impossible to manage reputation completely, some aspects of the reputation can be managed. A complex reputation management can be defined as a long-term strategy for measuring, auditing and managing of the industry's reputation. Complex reputation management should be based on a comprehensive plan for reputation management. This plan represents a strategic framework for performance, behavior and communication of the industry, which is used to effectively merge the identity and image of the industry. To clarify, plan for reputation management is a plan for unification of the internal image of the industry (what the industry thinks about itself) with the public perception of the industry. Theoretical background also says, that if the gambling wants to start managing its reputation effectively, it must thoroughly map and understand its reputational assets and liabilities. [5]

3. Slovak Gambling market

Gambling was illegal in Slovakia till 1990. After the fall of communism, it was legalized by the government of Czechoslovakia. Legalization of gambling supported by an absence of rules and regulations led to a steep growth of gambling industry in Czechoslovakia and later in Slovakia. Insufficient rules and regulations also hugely influenced the structure of the gambling industry in Slovakia, which is very different from the structure of gambling industries in United states of America or Asia. Most successful gambling markets like Nevada or Macao are characterized by a smaller number of big gambling businesses providing a broad number of different forms of gambling. Slovak gambling industry went the exactly opposite way. Instead of a smaller number of big gambling businesses, it is characterized by a vast number of small gambling businesses providing primarily slot machines and videogames. According to Financial Administration of Slovak Republic there were 14 555 gambling businesses in Slovakia in 2015. [6] This number is enormous in comparison with Nevada, Macao or the whole United States of America. To provide context, in 2015 there were only 2950 gambling businesses in Nevada. [7] Also in 2015 there were only 459 casinos run by Native Americans in the entire United States of America, but their revenue was almost 30 billion dollars, while the revenue of the Slovak gambling industry was only 726 million euros. [8]

Table 1 Gambling industry statistics [6]

<i>Indicator</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>
Revenue of the industry (in mil. €)	556	630	726
No. of companies providing gambling	326	311	321
No. of gambling businesses	14 154	14 233	14 555
No. of slot machines	21 085	21 543	23 893
No. of technical machines	301	305	331
No. of card games outside of casino	444	569	537

Data from the Financial Administration also shows, that number of companies providing gambling in Slovakia actually decreased from 326 to 321, while the number of gambling businesses grew from 14 154 to 14 555. This shows another interesting trend occurring on the Slovak gambling industry. The industry is dominated by a relatively small group of companies, which operate a huge number of gambling businesses all over Slovakia.

It is logical, that companies providing gambling focus primarily on the slot machine businesses. The absence of legal rules and regulations gave them an excellent opportunity to do their business the easiest and most profitable way. Slot machines are the ideal solution for this. With slot machines, the company can easily turn any bar into a gambling business. Slot machines and videogames also don't require a big acquiring and maintenance costs and promise a steady and substantial profit in the future.

4. Reputation of the Slovak gambling market

Gambling, its possible negative social impacts and the reputation of the whole gambling industry has become a popular topic of discussion in the last years. International study shows, that negative social impacts of slot machines are much more severe than the impacts of other forms of gambling. [9] This fact supported by the long-term dominance of slot machines and videogames on the Slovak gambling industry resulted in an especially negative public perception of the industry. The negative public perception caused public pressure on the industry, which resulted in the creation of the voluntary public initiative against gambling.

The initiative decided to collect signatures on the petitions aimed at banning gambling in selected towns in Slovakia. In Ružomberok, Galanta, Levoča a Bratislava enough signatures were collected and the petition resulted in a ban of gambling in these towns and city. [10] To be precise, the ban of gambling doesn't actually make gambling illegal right away. It means, that gambling licenses are no longer prolonged and issued in these towns. This way the gambling businesses should disappear slowly and gradually.

Especially the ban of gambling in the capital city of Bratislava caused the biggest public discussion and could mean a huge loss of revenue for the gambling industry in Slovakia. When the representatives of the gambling industry saw, that a ban of gambling might actually happen, they quickly tried to manage the reputation of the industry and improve its public perception. As was stated

in the second chapter of the paper, the first step of reputation management is a measurement of the reputation. The same think was done by the representatives of the gambling industry, when they hired an independent statistic agency to conduct a survey focusing on measuring the reputation of the industry. The survey was done in the capital city of Bratislava on over 1000 respondents. [11] Results of the survey show, that more than 50% of respondents see the gambling industry negatively and supports the ban of gambling in the capitol city.

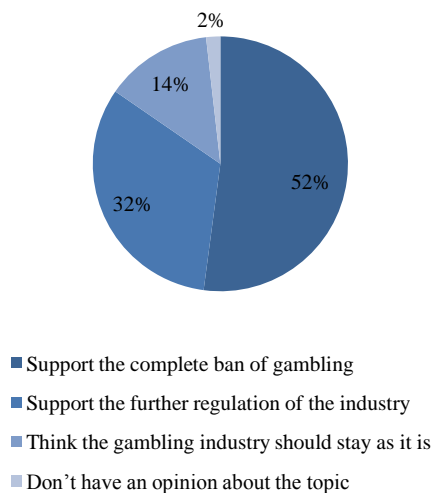


Figure 1: Public perception of the gambling industry [11]

On the other hand, the results of the survey also show that almost a half of the respondents don't support the complete ban of gambling in the capital city and they would prefer a different solution. As it can be seen in the survey, the future of gambling was and still is a very polarizing issue for the public. Even after the ban was enacted in the capitol city, it was almost immediately legally challenged and now the public waits on a decision of the court.

5. Reputation Management of gambling businesses in Slovakia

As was stated in the paper before, when the representatives of the gambling industry realized that ban of gambling is a real possibility, they tried to use reputation management to engage public and improve the reputation of the industry. This way, the public was subjected to two different messages by two opposite groups. Initiative against gambling tried to persuade public to support the ban of gambling and the representatives of the gambling industry tried to do the exact opposite.

First, the gambling representatives hired independent statistic agencies to measure the reputation of the industry and find out the opinions of the public. Then they tried to communicate the identity of the industry to the public. While the initiative against gambling communicated mostly through an emotional content on social media, the gambling representatives chose a completely different approach. They used almost exclusively the public relations tools for communication through more usual

media like TV or print. A unified message from the whole industry was communicated to public by the statements of the industry spokesperson.

The content of the statements was focused mostly on busting the myths about the gambling industry through statistic data, survey results and most importantly through showing the economic contributions it brings to society. The industry tried to show, that it gives jobs to a vast number of people, whose livelihood would be severely threatened by the complex ban of gambling.

The representatives of the industry also tried to improve its public perception by admitting, that the scope of the gambling industry and slot machine businesses in Slovakia is too vast and by showing a willingness to regulate itself. These regulations should have come after a new law about gambling was enacted by the Slovak parliament. The industry also claimed, that the regulations based on this new law should bring much more positive effects to the public than the complex ban of gambling. [12] The industry also tried to engage public with native advertising in Slovak print medias. [13]

6. Discussion

Even though the representatives of the industry tried to use the public interest and discussion about gambling to manage and improve their reputation, the ban of gambling in Bratislava was enacted. If the ban is truly enforced, a significant portion of Slovak gambling businesses will gradually go out of business. The ban is currently being legally challenged and public interest in the topic of gambling faded away. In few Slovak towns the signatures for the petition are still being collected and the members of the initiative are pushing for a ban of gambling.

Bans of gambling based on a public initiative clearly show the devastating effect a negative reputation can have on a whole industry. Currently it is unclear, if the public pressure on the gambling industry in Slovakia will fade away after the ban in Bratislava, or if it will gain new momentum and bans in other towns will follow.

In both ways, the gambling industry needs to pay much more attention to reputation management and to its public perception. A periodic reputation measurement in Slovakia is a necessity, if the industry wants to see how its reputation is changing. Representatives of the industry also must find an effective way to engage public and present its identity in a clear and noncontroversial way. Controversial nature of gambling makes communication with public complicated, because even a well minded message can be easily misinterpreted and even more antagonize the public. Another way to merge the identity and image of the industry might be to show public the different forms of gambling and focus on the more socially acceptable ones. This way people don't see only the slot machine businesses, but also the poker clubs, casinos and so on. These forms of gambling are less controversial and present an appropriate way to improve the reputation of the whole industry.

To improve the reputation of the industry and implement any tool of reputation management the individual businesses must be willing to find a way to take a unified

communication strategy. Many businesses have no desire to improve its reputation or the reputation of the whole industry, because they feel safe and think that ban of gambling in their own town is not an eminent issue. For these businesses, it might seem unnecessary to waste resources on improvement of the industry's reputation. This short-sided approach may cause them significant problems in the long run, if the campaign against gambling in Slovakia gains any more momentum.

7. Conclusions

Situation of the gambling industry in Slovakia is an excellent example of how a negative reputation can have a severe impact on operation and revenue of the whole industry. Historic lack of oversight in Slovakia resulted in a dominance of slot machine businesses. Dominance of slot machine businesses and a small market share of other forms of gambling can be identified as one of the most important causes of the negative reputation. Case of Slovak gambling industry also shows, that negative reputation can be tolerated by the public and ignored by the businesses only to some point. After it reaches a critical level the public takes some corrective action, which can be seen in the rise of public initiatives against the gambling industry. The ban of gambling in Bratislava and the other towns is a concrete negative impact on the gambling industry caused by the public initiative.

The negative reputation can be improved by reputation management. When the initiative against gambling started to gain momentum some representatives of the gambling industry realized this and tried to manage the reputation of the industry. Representatives focused on presenting the identity and the positive aspects of the industry. But even though their actions moved the right way by starting to manage the reputation of the industry, it was too late and the reputation was too negative to stop the ban of gambling in the capitol of Slovakia. In the case of Slovak gambling industry, it can be also seen, that it is incredibly difficult to improve reputation, once it reaches an extremely negative level. This fact is even more noticeable when it comes to already controversial topics like gambling.

Currently the public discussion about gambling in Slovakia became a little quieter and both the public initiative against gambling and the representatives of the gambling industry are waiting for the court decision about the ban of gambling in Bratislava. Regardless of this decision, it is undeniable, that the reputation of the gambling industry is very negative and if the gambling businesses want to avoid future problems, they need to find an effective strategy for their reputation management in the future.

Acknowledgements

This paper was supported by the Slovak Research and Development Agency under the contract No. APVV-15-0511.

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OVERVIEW TO MEASUREMENT OF THE HUMAN CAPITAL EFFECTIVENESS

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Abstract: Human capital, belonging to economic inputs, needs to be managed in an effective way. It is embodied in abilities, skills, knowledge and experience of employees and managers. It is a necessity for enterprises to have enough human capital at their disposal to be able to perform their activities, and to be productive and competitive. Therefore, human capital management must take care of many issues pertaining to the human capital. One of them is the effective and efficient use of it. Right understanding of this topic can still be tricky, with the need to gather various pieces of information from an abundance of scientific and specialised sources. The aim of this paper is to offer an overview of methods that can be used to assess human capital effectiveness by managers of enterprises.

Keywords: human capital, effectiveness, measurement, human capital management

1. Introduction

In general, when assessing whether the economic inputs are being used in an effective way, it is needed to compare somehow the value of them with the value of the outputs they were used to produce. Such activity is considered to be easier in case of tangible inputs or even work, when taking just its quantitative aspect into account – expressed by the number of hours or number of employees. However, the very nature of human capital makes assessing its effective use much more complex and complicated. That can also be the reason why the metrics and methods that could be used to evaluate human capital effectiveness has not been unified yet.

Qualitative nature of the human capital is a difficult issue and it often does not allow its easy quantification. An attempt to derive the partial relations and contexts, the modification of existing indicators, identification of new parameters as well as the proposal of new methodology of statistical surveys can contribute to a better comprehension of the total impact of human capital on the enterprise as well.

The aim of the paper is to identify and compare various theoretical approaches to the measurement of the effective use of human capital for practical application by managers of enterprises.

1.1 Effectiveness, efficiency and human capital

The relation between effectiveness perceived as an ability to deliver the desired results and efficiency, more quantifiable variable used to reveal the possible waste of resources, can be found in the topic of human capital as well. Since the effectiveness can be perceived as a broader concept, it could be applied to give insight not just into comparing outputs with some representation of human capital value engaged in their production, but also into the connection of human capital and goals of enterprises.

The importance of assessing the human capital efficiency is also supported by the fact, that human capital and its utilisation influences the work as production input. “Human capital is the investment in human resources in

order to increase their efficiency. In fact, the costs of this investment are provided for future use. Therefore, an organisation chooses the investment in individuals, because people are valuable human capital with different qualities [11].”

The emphasis is put on effectiveness, supply reliability, meeting deadlines, low costs to ensure free running of an organisation [7].

Efficiency is generally defined as the relationship between the outputs achieved and the inputs used. The efficiency of human capital can be calculated analogically as a percentage of the value of enterprise output and the value of the input, human capital. However, when choosing output and input, such variables must be chosen that relate to each other, and that are crucial to the administration of the enterprise performance.

Thus, to make calculation and monitoring of efficient use of human capital possible, outputs produced with the given human capital need to be quantified. But some representation of the amount or value of the human capital must be set as well, which is much more problematic.

When trying to quantify outputs while measuring the efficiency and effectiveness of human capital, many substitutive measures can be used, especially for jobs without physical outcomes. Some examples include the increase of customers’ satisfaction, increase of sales, reduction of errors, shortening of the time spent to deal with complaints, savings achieved, number of patents registered per unit or per working group, and others.

Measurement of human capital amount or value is elaborated in several approaches, but there is no unified methodology similar to evaluation of other economic inputs. This issue arises from the difficulties occurring during attempts to quantify differentiated components of human capital, such as knowledge, skills and abilities, motivation, or talent.

Mazouch and Fischer [10] define three factors having impact on the human capital and its value. The first, initial group, is represented by genetically inherited, inborn abilities of individuals. These foundations can then be

developed through activities connected to the environment (background) and education. Interactions with family and social factors together with various forms of education create the acquired and developed skills and pieces of knowledge. Also, the interconnection of individual elements of human capital cannot be omitted. Then the simple structure of human capital can consist of two layers – basic and wider human capital (Fig. 1).

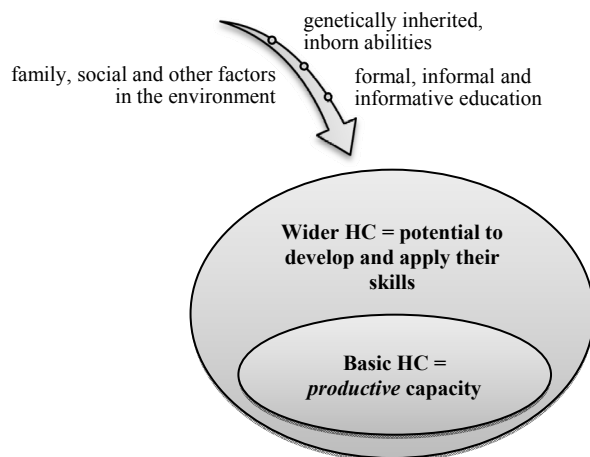


Fig. 1: Components and factors influencing the human capital [10]

2. Measures of the efficient use of human capital

The part of management focused on human capital is called human capital management (HCM). According to Armstrong and Taylor: “HCM involves the systematic analysis, measurement and evaluation of how people policies and practices create value.” They also add that: “the defining characteristic of HCM is the use of metrics to guide an approach to managing people that regards them as assets and emphasizes that competitive advantage is achieved by strategic investment in those assets through employee engagement and retention, talent management and learning and development programmes [2]”.

Within this topic, Selden especially focuses on the strategic aspect of work with human capital as valuable asset, even using the term strategic human capital management (SHCM). “At the heart of SHCM is the need to develop further the capacity for making analytical and data-based human capital decisions. [14]”

HCM works with metrics revealing how the human capital is being used in a particular enterprise. Managers need to know some ways of determining the human capital values, and then they must evaluate whether this utilization is effective. Low levels of effectiveness need to be thoroughly examined to identify possible causes and define steps to be taken to improve processes affecting human capital.

The issue of quantifying the human capital value and assessment of its effective use through direct or indirect metrics also needs to be connected with the way how an enterprise monitors its own performance – to its key performance indicators.

2.1 Conceptual model

Value and efficiency of human capital is put into relation in the conceptual model (Fig. 2). The model emphasises the role of enhancing the human capital in an enterprise because it leads to improvement of employees’ performance, and their performance transforms into results and outcomes of the whole enterprise.

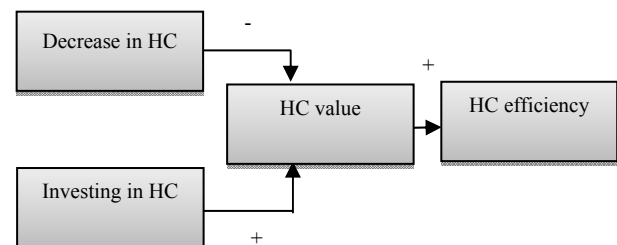


Fig. 2: Conceptual model for measuring the HC efficiency [3]

Basically, the human capital efficiency can be expressed using an income factor, calculated as a ratio of total income and total number of employees. But the perspective of costs or profit can be used as well. The decreasing of human capital value is attributed mainly to the turnover (leaving) of employees. Since it is necessary to express the value of human capital in some way (at least indirectly) to be able to continue with the assessment of its effectiveness, enterprises can start with looking at the portion of income of sales going to employees or to portion of operating costs going to employees [3].

Decisions on investment in enterprises represent a complex process due to the risk related with them. The outcome of this process is the investment’s realisation which binds high amount of funds, and it is a time-consuming as well as demanding process. In addition, it must bring future benefit for the enterprise. Choosing an appropriate investment is thus often of a strategic nature to enterprises [8]. The same applies for human capital. Investing in human capital is done through investing in education and training, investing in health and relaxation, and through investing in work safety and ergonomics. Education represents the process of purposeful mediation, creation and acquisition of knowledge, practical experience, and also the creation of commitment and proper attitudes. Investing in the improvement of employees’ health as human capital includes: organising recreational stays, regular health check-ups, swimming events or building of fitness centres, regular supplies of fresh water, meals for employees, etc. Investing in the safety and ergonomics relates to the fact that ergonomics help harmonise things people interact with, respecting the needs, abilities and limitations of people. Regular monitoring of anthropometric data on employees makes it possible to design and assess the tasks, jobs, products, environments and systems. Then they are in accordance with the needs, abilities and limitations of people mentioned above. By investing in the improvement of

working conditions and work safety, and by improving the work equipment quality, enterprises can prevent accidents from occurring, so they do not jeopardise employees' health.

The efforts of various authors and scientists to quantify human capital effectiveness and efficiency have brought a whole spectrum of metrics and indicators. An overview of them applicable in enterprises is shown here.

2.2 Human Capital Efficiency - HCE

One attempt of quantifying the human capital efficiency (represented by a metric of the same name) was performed by Andrienssen. He says that the human capital efficiency (HCE) can be expressed as a percentage of value added (VA) and human capital (HC) [1].

$$HCE = \frac{VA}{HC} = \frac{\text{Operating profit} + HC}{HC} \quad (1)$$

2.3 Human capital efficiency metrics following 4 factors

Bontis and Fitz-enz came up with the measurement of human capital efficiency based on four factors (Tab. 1). The increase of income or profit per one employee can be perceived as a fundamental goal of all enterprises. Improving the efficiency of human capital creates conditions for achieving better financial results. The FTE here stands for the full-time equivalent, which helps to summarize the work done by employees with full-time and part-time employment contracts, and by temporary workers [3].

Tab. 1 Human capital efficiency metrics following 4 factors

Indicator	Formula / metric
Cost factor	$\frac{\text{operating costs}}{FTE}$
Income factor	$\frac{\text{income}}{FTE}$
Profit factor	$\frac{\text{income} - \text{operating costs}}{FTE}$
HC ROI	$\frac{\text{income} - (\text{operating costs} - \text{wages and benefits})}{\text{wages and benefits}}$

[3]

2.4 Human Economic Value Added – HEVA

Another metric is represented by the human economic value added (HEVA) based on the well-known economic value added indicator (EVA). In the formula, EVA is divided by FTE mentioned above. The purpose of calculating this metric is to find whether the activities of the management bring value added for the enterprise. As it reveals how much time people spend in the creation of profits for the enterprise, this metric is considered one of basic measures of human productivity [5].

$$HEVA = \frac{(NOPAT - WACC \cdot C)}{FTE} \quad (2)$$

where, NOPAT - net operating profit after tax, WACC - weighted average cost of capital, C - the amount of the capital invested.

2.5 Human Capital Value Added – HCVA

HCVA (human capital value added) is another metric for human capital. By calculating this indicator, profitability of an average employee can be revealed and monitored. It also works with the FTE element defined above. "By subtracting all corporate expenses, except for pay and benefits, we obtain an adjusted profit figure. In effect, we have taken out nonhuman expenses [5]." Employees represent the most valuable asset in most enterprises. Thus, human capital is often considered the main prerequisite for future success. But employees are also connected with great amount of costs – preferably seen as investment. This makes assessment of the value added they bring into the enterprise so important [9].

$$HCVA = \frac{\text{sales} - (\text{costs} - \text{wages and benefits})}{FTE} \quad (3)$$

Tripathy et al. in their study also deal with the human capital efficiency through HCVA, but they define it as a ratio which is obtained by dividing value added (VA) by human capital (HC-total compensation to employees) in a firm for corresponding years [15].

$$HCVA (2) = \frac{VA}{HC} \quad (4)$$

2.6 Human Capital Market Value – HCMV

Human capital market value (HCMV) could also contribute to the knowledge of human capital and its effectiveness. It includes the element of market perception of an enterprise and its outputs through the market value. The numerator describes and quantifies the value of intangible assets that can encompass many other components, such as capability of processes, public awareness of the brand, or effects of marketing activities. This indicator is also viewed more usable for economists than managers, reflecting market value premium per employee (or rather full-time employment unit) [5].

$$HCMV = \frac{\text{Ent. market value} - \text{account. value}}{FTE} \quad (5)$$

Still, using market value to assess at least the value of human capital can be found in the report from Oracle. Henson says: "85 percent of our assets are intangible: knowledge capital and people [6]." Where more detailed structure of these intangible assets is shown as: human capital, structural capital, customer capital and organizational capital. Henson also adds that the company categorizes the difference between total market value and book value as intangible assets.

Conclusion

Effective and efficient use of production inputs (including human capital) is a necessity for all enterprises operating in today open economy. Human capital of enterprises is their very important asset able to improve and enhance their overall performance and competitiveness. Therefore, it needs to be managed carefully, using guidelines from the field of human capital management in combination with recent and valid scientific findings. The knowledge basis offers several metrics and indicators for the evaluation of human capital effectiveness, and some of them were presented in this paper. An interesting opinion is also that: "The success of creating an effective human capital depends on organisational unlearning because gaining new knowledge requires abandoning obsolete values or behaviours [13]". This point of view puts even more weight on the need of creating new metrics for human capital effectiveness, more respectful to its characteristics. However, when thinking of using a new metric, or a set of metrics, this relates to additional work of an analyst (manager), or even to the need of collecting new types of data. Therefore, a warning should be kept in mind, saying that: "just because a metric exists, that does not necessarily mean it should have a place of importance in your study. Measurement is an activity, and activity is expense. So, only measure something that adds value through revenue growth or expense reduction [12]." Plus, even though the metrics were created to assess human capital and its use in enterprises, they still insufficiently explain and capture the essence of human capital itself. They tend to substitute the human capital in calculations just with more quantifiable aspects of human work. But the world has transformed into the knowledge-based economy emphasising the importance of highly-developed attributes of human capital – skills, abilities, experience, talent, etc. This means that the science in this field needs to analyse issues related to human capital even further, and try to come up with new metrics for better understanding and respecting of substantial parts of this asset. Subsequently, managers dealing with the topic of human capital will have better tools at their disposal to assess its utilisation in enterprises.

Acknowledgement

This article was created as part of application of project: VEGA No 1/0652/16 Impact of spatial location and sectorial focus on the performance of businesses and their competitiveness in the global market and APVV-16-0297 Updating of anthropometric database of Slovak population.

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MANAGING AND IMPROVING KNOWLEDGE IMBALANCE AND CONFLICT IN THE WORKPLACE

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Abstract: Most employees would agree that the workplace is generally a quite stressful environment; thus, conflict is inevitable in any organization. In addition, when team members don't have the same level of knowledge, it can hinder their ability to get the point across and communicate effectively, resulting in obstacles to the achievement of performance objectives. Customer requirements and peer's inputs can be misunderstood due to lack of clarity and precision in their presentation; or perhaps requirement can be interpreted differently between employees. Knowledge imbalances generally occur when people who are assigned to work on the same project do not have the same level of knowledge and working experience as others. Conflict and knowledge imbalances can be costly and can pose serious risk to business productivity and competitiveness if proper measures are not taken to handle and address these issues. This paper presents detailed information of the effects of the transformation framework to make an effective change in addressing the conflict issues and knowledge imbalances in the workplace. While employees must perform their duty seriously, listen to feedback and be appreciated for their hard work; managers, on the other hand, must recognize and reward talent accordingly. These are key factors that influence the integration management process for conflict resolution.

Keywords: conflict, knowledge, imbalances, workplace, manage

1. Introduction

Indeed, conflict arises ubiquitously in the workplace. Hence, organizations should take conflict resolution seriously. Conflict occurs as a result of lack of communication, motivation, enthusiasm, and interest in achieving common objectives; the lack of clarity and precision when defining plan requirements and customer priorities; and varying styles of leadership in the organization. In addition, it may just be that employee are attempting to compete for higher level of promotion in the organization, or employees and supervisors do not have the same level of knowledge or experience to address the same issue. Sometimes, conflict occurs because the engineer has different ideas to solve a problem. Conflict can pose serious risks to the organization which affect business productivity and profit. According to the article [1], the Myers-Briggs Assessment and the Thomas-Kilmann Conflict Instrument have cited that employees spent approximately 2.8 hours per week dealing with conflict which results in approximately \$359 billion being wasted. Conflict can lead to divisiveness between employees and supervisors, resulting in project failure and financial loss for the organization. In addition, the researchers found that conflict happens in high-technology firms such as re-invention labs or innovative technology firms in which highly-skilled employees compete with each other based on their own goals. In some cases, employees failed to communicate with each other because they did not have the same level of skills or knowledge which made it difficult for them to cooperate on a project. There should be a proper and balanced distribution of authority, responsibility, skills, and knowledge between the employees to employee to manager across the organization. It is essential to have complete and accurate information on how to deal with

conflict and knowledge imbalances. Employees also need to know what protective measures are available to prevent adverse effects from occurring. Any imbalance may impact the effectiveness of business operations and business profit and can cause confusion, misuse of resources and guidance, and conflict in the workplace. The benefits of the management integration process and transformation framework include the following: improvement of the workplace conflict, having fewer exposures to conflict, facilitation of consistent communication, and awareness of conflict management.

2. Recognizing the Sources and Symptoms of Knowledge Imbalances and Conflict Issues in the Workplace

In the workplace, we generally agree on a basic concept of conflict situation. Conflict happens institutionalized, the author has cited conflicts occur with classmates, family, and society [4]. For instance, when you and your coworkers or even a project lead do not have the same level of knowledge when working together on the same project, there are potential negative consequences that may happen for your organization such as: potential conflict, incompetency, threats, insecurity and protection of egos between you and the team members in the organization. The author has recognized "conflict can stimulate innovation, creativity, and growth as the functional outcomes, on the other hand, conflict may cause job stress, burnout, and dissatisfaction" [3]. Incompetent employees often feel deceitful, underestimate the situation and want to have full control making you feel discomfort around them; they may even try to put you down and hurt you. They think you're more intelligent than them in every situation. They sometimes pretend to be on your side to assist you, are actually but working against you most of

the time. They did things behind your back, made you as a target and vulnerable on your job. They became jealous because you're smarter than them in many ways. The opponent can become very aggressive when confronted, they want to be right and you're wrong when they are about to lose the argument or trying to address the issues. They seem to have the toughest personalities to deal with, and you can never win when you try to debate with them, so don't even try to get into the trap instead of learning how to maneuver around them, try to outsmart them and avoid trying to criticize them. In this situation, you never want to be absorbed by your coworker's drama and avoid trying to get into the fight or conflict with them. In addition, never trust anything that your coworkers said no matter how sincere they sound when you knew they tried to do harm to you. If you fail their tactics, try to find smart ways to avoid getting hurt again. Never let your coworkers drag you into their control and manipulation; instead insist that they stop the abusive behavior. Refuse to engage if you do not feel comfortable discussing about the problem with them, refuse to tolerate their behavior and action. Tell your coworkers exactly what you want or do not want them to do.

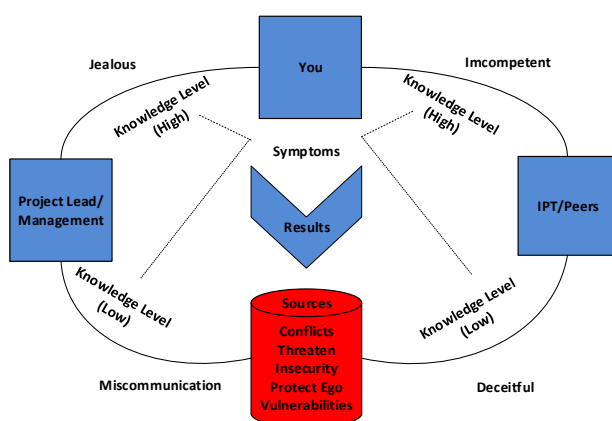


Figure 1: The Impact of Knowledge Imbalances and Conflict in the Organization

3. Addressing the Knowledge Imbalances and Conflict Issues in the Workplace through the Transformation Management Framework Approach

“Conflict is a serious issue. Research indicates that a typical manager loses 25% of the day responding to unhelpful conflict” [2]. In order to deal with conflict in the workplace, both employees and managers must address issues through the application of the transformation management framework. You will need to exercise a lot of patience and self-control in order to protect yourself from getting into the conflict with your managers or coworkers. Always keep your emotions in check, no matter how much your coworkers infuriate you. It is never to your advantage to lose your temper because you might end looking like a troublemaker. Analyze the situation to understand whether your coworkers are truly incompetent or not knowledgeable in the area of expertise. It’s always a good practice to keep your work separate from your coworkers by making and documenting every copy of what you do

especially, if your opponent is trying to blame his bad work on you or claiming your good idea is them. Generally, email is a great way to communicate with your management and coworkers; it's also a great way to document your work and carbon copy to anybody you want them to know, if appropriate. It is good to have a witness when you interact with coworkers or supervisors; particularly when you are presenting your ideas or discussing new concepts. When you are trying to go over your boss's head, the rule of thumb is to make sure you have evidence and detailed information to back up your claims. In every organization, good leaders generally know how to work with a variety of people, even the ones they wish they could be fired. Top management including top leaders, needs to know how to work with people from different cultures who have different knowledge bases. Good leaders also need to motivate underperformers and collaborate with coworkers as well as overcome difficult employees. Incompetent team leaders and managers are often inescapable in the workplace. Avoiding these conflicts is not only option. Leaders need to learn way to keep cool and manage them professionally. In order to avoid confusion and conflict in the workplace, leaders need to communicate clearly and explicitly to their employees. People guess often incorrectly what they are supposed to do when they are not sure about their problems. Everybody tends to point fingers in the workplace rather than realizing their faults and accepting responsibility for their mistakes. This causes tension and stress on the job. It's up to the leader to create an environment where everyone is working on same page. There is never an excuse for not getting something done. Establish a clear communication channel that everyone is supposed to follow and implement in order to make the project run successfully. The leader should lead by example and show the team how to properly share information and discuss their progress. After each face-to-face meeting, there should be a follow-up to update each member on what has been discussed and what steps should be taken next. Each individual should document important notes so that they can use them as a reference when they need information. At times, there are cases where some coworkers cause trouble no matter what the leader does. This can become a big problem in the workplace. Always document, whether someone is making inappropriate comments or not doing their job properly. Start documenting everything if there is an argument, obtain details from both sides. When senior leadership gets involved, there will be clear documentation on what happens. Be as objective as possible in these situations. Remember a calm approach always be more pure, rational, and prudent than losing control, screaming, and placing blame. Stay cool because everyone has their breaking point. Great leaders should avoid crossing the line and exploding from frustration. First, learn when and where to take a break. Arguments tend to break out when there is open conflict. If this happens, walk away and find a place to release your stress. Find time to stop and cool off. Be prepared to make tough choices. After dealing with difficult, incompetent coworkers for a while, it is easier to

watch them fail rather than wasting energy trying to help them. However, consider the needs of your organization. Help and provide advices, but do not pick up anyone's slack or volunteer to do their job. Don't share your business with them because it only causes more negativity. Try to be patient when dealing with conflict situation. People hate and going to be jealous because you're smarter than them. They may even make jokes so just ignore them. You are doing the right thing so you have nothing to be afraid of when dealing with someone trying to hurt you. You are passion what you want to do; you are building your dream. You are going to have your own-company, you are going to work with the people who have the same motivation like you so just ignore the people that do not like about you. It's always people who are jealous end up with dealing with federal security in the workplace. Some of them are good some of them are just so jealous and no matter how much you try to be nice to them. You need to create an environment for yourself that is going to build you up and growth your career. Are the people around you trying to explain, make excuses, or blame others? Think about it.

What are some of the reasons for having conflicts in the workplace ? It may be pride, ego, jealousy, misunderstood, miscommunication, conversational issues or it may just be a bad day for someone altogether. Approach the conflict with an open mind. Keep in mind that not all people have the same perception; therefore, it is important to prepare yourself for acceptance. Think about different conflicts that you have dealt with in the past. There may have been a lack of communication or information that lead to the problem. Take steps to assess the situation and communicate your issues with an open mind. The second thing that you need to keep in mind is to remain in control of your emotions when addressing the conflict issues; do not let them empowered you. If you allow this to happen, you will never have a positive outcome. For those who love drama, it may seem like a good idea to show off their crocodile tears the moment they are faced with conflict. Another thing that you need to make note of is stop assuming. Somebody is saying something and the next thing that you start rolling your eyes with anger and frustration. Well, we need to take a break, think about the situation, and stop jumping to conclusions. Don't let your brain go numb or think negatively when dealing with the conflict. Try to understand and give the person the benefit of the doubt. Maybe they said something incorrectly but not necessarily meant to blame you or meant to put you down. You just need to relax. Understand and acknowledge what they said. This will help you make your point. Please don't jump to conclusions. Don't start to think negatively. It is important to think positively. The last point you need to keep in mind is to approach the conflict with the opportunity to resolve the matter. When you get to the conflict, remember that each situation is different you need to use different tactics to deal with each situation differently. It is a positive sign to have conflict with someone because it means there is potential for growth and development. If nothing works, you can show the another side of yourself. Go ahead and apologize.

Apologizing is not going to solve everything, but it can be a sign of respect when dealing with the conflict situation. Even with a small team working on a small project, conflict must be expected. If you have a big business and work with multiple teams, again you have to think about how much conflict can cost your business. Understanding the reasons behind workplace conflicts can help the managers handle problems before a conflict turns into a bigger problem. It is okay to have conflict as long as we know the cause of it and how to resolve it.

To solve the conflict effectively, we need to understand the problem. We need to minimize the negative traits that may lead to the conflict and maximize the positive traits to resolve the conflict issues, as referenced in the Figure 2 below. The negative traits which represented in the Figure 2 have the subtract sign in the parentheses and the positive traits have the plus sign in the parentheses. We also need to describe the problem in a few words and give our opponent an opportunity to respond and provide their thoughts about the problem. The more information we have about the cause of the problem, the more easily you can work together with your partner to solve it. Think about the context of the incident. How did it happen? What time did it happen? Where did it happen? The more accurate the information you have about the situation, the more easily you can solve it. We need to respect and understand each other's concerns. Listen carefully with an open mind and try to explore the root cause of the problem. Try to come up with a strategy that resolves the differences, instead of waiting for the other person to solve it. Avoid trying to get into fights with your partner. Always pick the right opportunity, place, and time to discuss the matter. Sometimes, if you are unsure about something, give the other person the benefit of the doubt so that you can alleviate the problem. Be patient when dealing with conflict because it can make you stressed out. It takes time to understand and figure out how to solve a problem. Patience is key to dealing with a stressful conflict.

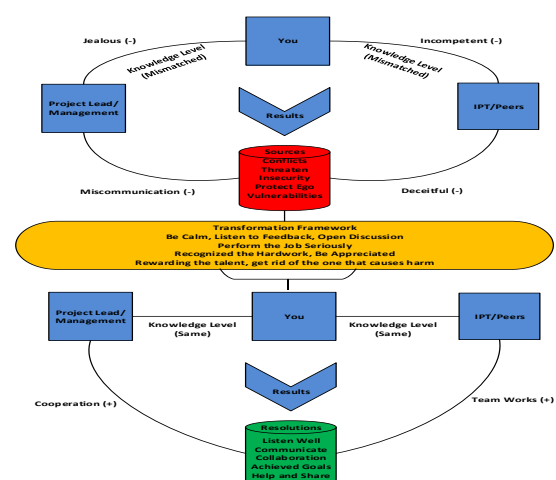


Figure 2: Management Approach to Improve the Knowledge Imbalances and Conflict in the Organization

3. Manage and Resolve Conflict through Integration Management Process

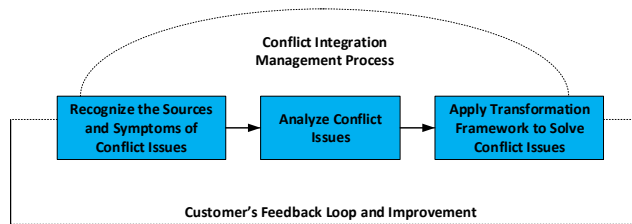


Figure 3: Manage and Resolve Conflict Integration Management Process

The integration management process includes the three key factors in sequence, recognize sources and symptoms of issue, analyze issue, and apply management strategy and techniques. We need to be able to recognize the root causes and the symptoms of the conflict issue, sometimes; we are likely to have a positive intention and are doing what is best to help others. However, you may not recognize other people's needs and they may completely feel against your position. For example, the sources that created conflict issues which include people having different ideas about solving the problems. In addition, their desire and motivation in achieving the goals may be different, and they don't agree with the policy and procedure that set out by the organizations, they think they might have different ways of handling the issues and can finish it faster with less cost. In addition, we also need to understand the symptoms of the conflict for instances, people are ignoring each other and don't want to continue working on the same project, they hurt each other and want to quite the company.

The second factor involves analyzing the issue that created the conflicts in the workplace. For instance, we need to analyze how the conflict happens. What happened? Who was involved? And where did it happen? We need to be able to ask for witness to clarify and verify the situation to gather more evidence. We also need to know if the conflict has happened in the past and look for the repeated pattern as necessary so we can solve the problem more effectively. Third factor involves with applying the transformation framework technique as appropriately to solve the conflict issue to get the positive outcome.

4. Conclusions

In this paper a detailed information is carried out that provided a brief outline of the management approach of improving the conflict and the knowledge imbalances in organizations. An attempt was made to provide some guidelines so that organizational members know how to deal with conflict situations at work effectively. Provided the understanding of the integration management process and the transformation framework as well as how it affects conflict and knowledge and management of imbalances in the workplace. Recognized the conflict and the mismatched knowledge level in order to improve access to management approaches to deal with conflict and

knowledge imbalance issues. Some people might think conflict is bad and we should be ignored it, however, productively engaging in conflict can be considered as an opportunity, if it is managed effectively. The literature indicated the use of a transformation framework can help managers and employee deal with conflict and improve the knowledge imbalances in organizations which lead to employee corporate and work together to achieve a common goal. As mentioned earlier, conflict in the workplace may be inevitable. Instead of waiting for it to happen, employee and managers should be expected learn the process how to handle conflict efficiently. Understanding the approach in dealing with the conflict and practicing the conflict management skills lead to more successful management of conflict developed and built stronger bond and cooperation among people through learning and understanding about each other, also help release the stress and emotional in dealing with conflict when the problem is clarified with clarity.

Acknowledgements

The author wishes to thank the academic counselor, Theresa, and the school staffs of LIGS University for inviting and providing guidance and opportunity for me to participate and present this paper at the Comparative European Research (CER) 2017 Conference. Thank you for the extensive and insightful discussions as well as provided registration information, discount codes, and procedure about the CER. Thank you the Comparative European Research's committee to provide an opportunity by hosting the online conference so that all the PhD students, faculty, researchers, and academia have a chance to participate and exchange new concepts and ideas about the work that we do.

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MARKET ENTRY STRATEGIES FOR SMALL AND MEDIUM SIZED ENTERPRISES IN FOREIGN MARKETS BASED ON A LITERATURE RESEARCH

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Abstract: During the last decades, the increasing globalization of markets has fundamentally changed the economic environment for small and medium sized enterprises (SME). This fact forces SMEs to use the advantages which a foreign market entry implicates. The most known market entry modes are developed for large scale enterprises and for this reason aren't fitting to the specific requirements of SMEs. There is a lack of research regarding to specific market entry strategies and modes for SMEs. The purpose of this research is, to figure out the challenge for SMEs to entering a foreign market in contrast to large scale enterprises (LSE) and in a further step, develop a guideline specifically for SMEs the enter foreign markets.

Keywords: Market Entry Strategies, Globalization, Small and Medium Sized Enterprises

1. Introduction

According to the German Mechanical Engineering Industry Association the "Internationalization is our biggest growth driver" for the German economy. This statement could be transferred to many european countries. Therefore entering a foreign market for small and medium sized enterprises (SME) is as important as for large scaled enterprises (LSE). During the last decades, the increasing globalization of markets has fundamentally changed the economic environment for small and medium sized enterprises. Even though there are some exceptional examples of SMEs which have successfully adapted to these changes, most SMEs lack the internal resources needed for the entry into and development of foreign markets. Structural problems specifically related to SMEs make it more complicated for them to successfully master the challenges of globalization. The awareness of market chances, the rising competitive constraints caused though international acting companies in the domestic market as well as the need to follow industrial customers to foreign market, stimulates the interest of SMEs becoming international. Statistics shows, that the degree of internationalization of SMEs, compared to the foreign sales in relation to total turnover, is significant smaller than the degree of internationalization of large enterprises. Despite this described increasing importance for SMEs to adapt to the changing economic conditions due to globalization there is a lack of research regarding to specific market entry strategies and modes for SMEs. The purpose of this research is, to figure out the challenge for SMEs to entering a foreign market in contrast to LSEs. For the theoretical background, the importance of SMEs for the German economy in general was evaluated and a literature research of the classical market entry strategies should give an overview.

2. Small and Medium Sized Enterprises in contrast to Large Scaled Enterprises and their Importance for the Economy

There are qualitative and quantitative criteria which defined what a SME characteristic looks like in comparison to a LSE. Quantitative aspects of the term mostly relate to the size of the company. To scale this size often the turnover and the amount of employees, the so called headcount, is used. Also the total of balance sheet could be used to classify the size of a company. Different institution has its own approach about the demarcation the characteristics for a classification in SME. For example the German Commercial Code has an approach about this (§267 HGB). In §267 HGB it is mentioned that two of three of the following values Headcount (up to 250), turnover (up to 32,12 Million Euro) and total of balance sheet (up to 16,06 Million Euro) must fit to the classification of company sizes. Compared with the qualitative criteria the quantitative criteria are much more easily to identify and measure. Main characteristic is the unity of property and management. But also flat hierarchies, personal relationships and others to the corporate environment are criteria for the qualitative perspective. Any number surmounting one of the indicators define a company as a large scale enterprise. [13]

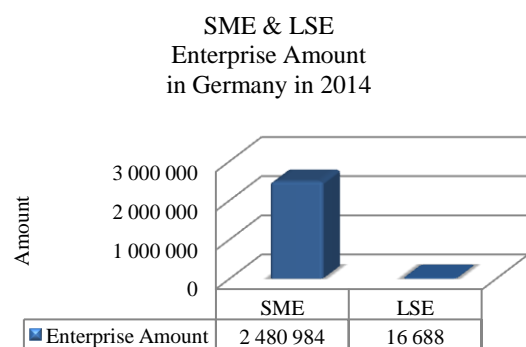


Figure 1: Amount of SME and LSE in German in 2014

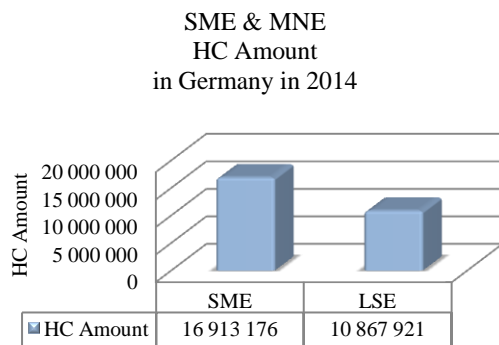


Figure 2: HC amount of SME and LSE in German in 2014

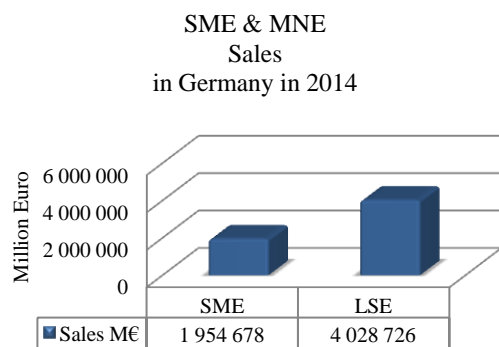


Figure 3: Sales of SME and LSE in Germany in 2014

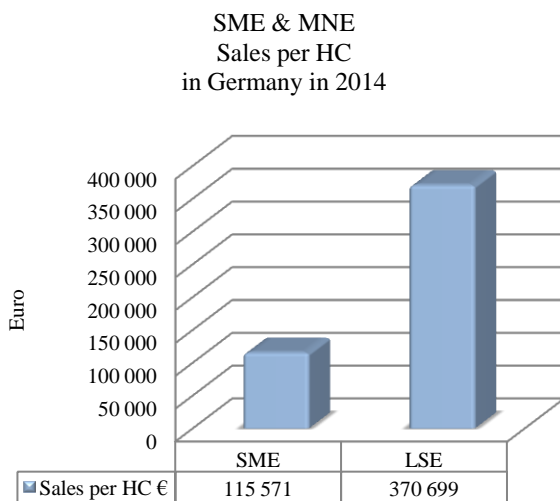


Figure 4: Sales per HC of SME and LSE in Germany in 2014

As impressive as the performance of LSEs may appear, currently, SMEs represent the majority of firms in most countries, and therefore, they play an important role in the economic growth of their representative countries. Small and medium sized enterprises are the engine of the German economy. This is illustrated by statistical data on the macro-economic significance of SMEs and by SME key indicators for Germany. The following data are based

on IfM definition of SMEs. The Institut für Mittelstandsforschung (IfM) Bonn was established in 1957 as a foundation of private law on the initiative of Ludwig Erhard, then Minister of Economic Affairs (and later German Chancellor). [14]

- SMEs make up 99,3% of all registered companies in Germany
- 58,5% of the German workforce is employed at SMEs
- At the end of 2014, some 81,8% of all apprentices were trained by companies with less than 500 employees (subject to social insurance contribution)
- German SMEs generated an annual turnover of approx. 2 204 billion Euro in 2014, which represents 35,3% of the total turnover of German enterprises
- SME Export turnover 17,5% of the total German export turnover (approximate 201 Billion Euro)
- German SMEs had a share of almost 55% in total net value added in Germany in 2014

3. Literature Review

3.1 Transaction Cost Theory

The Transaction Cost Theory was developed by Commons and Coase and refined by Williamson. It says, that every transaction is connected with costs; these costs described the price of participating in a market. With this theory, enterprises could figure out if a foreign market entry would be efficient. Commons distinguishes three types of costs. First, are search and information costs; which are costs such as in determining that the required good is available on the market or which the lowest price has. Second are costs of bargaining which means costs which are required to come to an acceptable agreement with the other party to the transaction, drawing up an appropriate contract. And last, policing and enforcement costs, which are the costs of making sure the other party sticks to the terms of the contract. [5][10]

3.2 Internalization Theory

Internalization Theory is developed by Rugman and refined by Buckley & Casson. It could be seen as a further development of the Transaction Cost Theory and is used to analyze international business behavior. Internalization can refer to any process that is handled within a particular entity instead of directing it to an outside source for completion. This means, internalization can apply to a corporation shifting assets between subsidiaries across borders. Internalization Theory focuses on imperfections in intermediate product markets. An intermediate product means knowledge flows (linking research and development to production) and flows of components and raw materials from an upstream production facility to a downstream one. To mark out the difference to Transaction Cost Theory, the Internalization Theory focuses on links between research and development and production whereas Transaction Cost Theory focuses on links between one production facility and another. The Transaction Cost Theory typically attributes market imperfections to bounded rationality while Internalization Theory emphasizes asymmetric information and weaknesses in property rights. [4]

3.3 Eclectic Theory

The author of the Eclectic Theory is John H. Dunning. This theory is seen as a further development of the Internalization Theory. The Eclectic Theory is also known as the OLI Model. The difference to Internalization Theory is that for Dunning, not only the structure of organization is important; he added three more factors to the theory. First the ownership advantages (O), e.g. trademark, production technique, entrepreneurial skills, returns to scale. Second the location advantages (L), e.g. existence of raw materials, low wages, special taxes or tariffs. Third the internalization advantages (I), e.g. advantages by own production rather than producing through a partnership arrangement such as licensing or a joint venture.[7]

3.4 Industrial Location

The Industrial Location Theory was developed by Alfred Weber in 1909. He formulated the later so called “Weber Problem” in which an industry is located where the transportation costs of raw materials and final product is a minimum. In the “Weber Problem” the focus is finding a point in the plane that minimizes the sum of the transportation costs from this point to n destination points, where different destination points are associated with different costs per unit distance. The model of Weber reduces the location factors in three categories. First, transport costs like material index (e.g. weights of the intermediate products). Second, labor costs, like sources of lower cost labor which may justify greater transport distances and become the primary determinant in production. And third agglomeration and deglomeration, which describe the phenomenon of spatial clustering or a concentration of firms in a relatively small area. [11]

3.5 Resource-Based View

The Resource-Based View posits that a firm's success is largely driven from resources that possess certain special characteristics. It is a model that sees resources as key to superior firm performance. The Resource-Based View could be seen as a basis for the competitive advantage of a firm lies primarily in the application of a bundle of valuable tangible or intangible resources at the firm's disposal. If a resource exhibits so called VRIN attributes (valuable, rare, imperfectly imitable and non-substitutable), the resource enables the firm to gain and sustain competitive advantage. [5][11][12]

Table 1 Resourced Based View – Evaluate Resource

1. Identify the firm's potential key resources		
2. Evaluate whether these resources fulfill the VRIO criteria	V	Value A resource must enable a firm to employ a value-creating strategy
	R	Rare To be of value, a resource must be rare by definition
	I	Imperfectly Imitable If a valuable resource is controlled by only one firm it could be a source of a competitive advantage. This advantage could be sustainable if competitors are

		not able to duplicate this strategic asset perfectly
	N	Non-substitutability Even if a resource is rare, potentially value-creating and imperfectly imitable, an equally important aspect is lack of substitutability. If competitors are able to counter the firm's value-creating strategy with a substitute, prices are driven down to the point that the price equals the discounted future rents
3. Care for and protect resources that possess these evaluations, because doing so can improve organizational performance		

4. Competitive (Dis-) Advantages for Small and Medium Sized Enterprises

Fiengenbaum and Karnani defines different advantages for SMEs like the core competence in niche markets, they say that it is generally accepted that small firms should seek market niches. Also output flexibility is a source of competitive advantage, especially in industries facing stronger demand fluctuations, higher capital investments, and less profitability. AS well as that SMEs could react of special customer wishes fast and flexible and with this advantage they could demarcate from big companies. The close customer loyalty is also an advantage as well as flat and simple organizational structures.

But beside these advantages there are as well many disadvantages like small resource features and no optimal management strategy. Often fewer educated and qualified employees because of the smaller possibility to pay high wages. Related to market entry decisions the bounded risk bearing ability and bounded information about target countries must be added. Regarding to Setzer the potential of capital, human resources, management and know-how mostly misses for an international market entry. [8][9]

3. Findings

Table 2 Theory Overview

Name of Theory - Author	Description	Missing Consideration of Needs of SMEs - Advantages for SMEs
Transaction Cost - Commons, Coase, Williamson	Transaction costs shows the costs of participating in a (foreign) market	Participate in a foreign market is tougher for SMEs regarding to less resources like budget and therefore to handle transaction costs.
Internalization - Rugman, Buckley-Casson	Figures out, if internationalization of transactions has higher efficiency as transaction by an external partner	Probably missing knowledge of SME to compare if a internationalization of a transaction is more efficient than giving it to an external partner as well as the fact, that business partner often prefer to work with LSEs (because conjecture of better capital assets and financial statement).
Eclectic	OLI-Model shows categories of	The ownership aspect could be seen as an advantage for

Dunning	advantages for foreign market entry	SMEs. LSEs often do not have one owner. There are different managers, with spread power and responsibility and often not the origin founder of the company is still working for the company.
Industrial Location Weber	Figures out, the location factors where costs are at a minimum	Missing or less knowledge of SME to compare costs the identify location factors, comparable to the disadvantages from Transaction Cost Theory.
Resource-based View Wernerfelt, Coase, Penrose, William-son	Identify the firm's potential key resources for a foreign market entry	On the one hand often SMEs has less resources in aspects like amount of head count (human resources) or capital which would be a disadvantage but SME are often characterized by having resources with VRIO aspects like patents or niche know how.

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4. Conclusions

The described Market Entry Strategies focused LSEs. These strategies are based on competencies and procedures attributed to LSEs. SMEs has it's own success factors for foreign market entry and it's own struggles with a foreign market entry. The predominant assumption, that “cut down solutions from LSEs“ is sufficient for SMEs must be doubted. Probably reason for not have specific strategies for SMEs could be that the importance for economy are not registered as that high. Furthermore LSEs are easier to evaluate because of the multifaceted structured reports they are obliged to publicize.

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Session: Economy, Financing, Public Administration

Index of Author(s)

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LEGAL BASIS OF IMPLEMENTING INNOVATION IN EU COUNTRIES ENTERPRISES

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Abstract: Innovations are present in every aspect of life today. They reflect the dynamic changes that take place in the world. You can get the impression that every next product or every next thought is related to innovation. So, without innovation, companies cannot talk about their dynamic development, and consequently also about gaining a competitive edge on the international stage. To get this, undoubtedly, there is a need for in-depth knowledge of innovation, particularly in terms of the legal aspects of implementing innovation. Thus, in this case, the maxim that says: the ignorance of the law is harmful (Latin: *ignorantia iuris nocet*), is unusually justified. In order to avoid this, research to bring about the subject and to explore it, is being done. Thus, in the case of the proposed article, it was decided to carry out a theoretical reflection on the most important aspects of the law in this regard. Thus, the general aim of the study is to analyze the legal bases connected with the implementation of innovations in enterprises operating in the EU countries with a special focus on Poland. With regard to the clarity of the article, it was decided to divide it into six parts combined into a logical whole. At the beginning the reader was offered a brief introduction to the subject, then theoretical coverage of innovation protection and innovation policy were discussed. The next part of the paper focuses on presentation of Intellectual Property Rights and Copyright. The total of the reflections was summed up with the most important conclusions of the analysis. The last part of this article is devoted to the most important bibliographical references.

Keywords: legal aspects, innovation, EU countries, enterprises

1. Introduction

An important element in creating innovation in the enterprise is its legal protection. It is important for business executives to know how they can protect their innovative product or service. On the other hand, they should also be aware of the conditions under which they may use their patents.

The public policy is a fundamental mission in creating legal mechanisms. Information about the use of methods can give the authors of this policy increased economic and social benefits associated with intellectual property rights.

2. Protection of innovation - theoretical approach

Poland as a member of the European Union is subject to Regulation (EC) No 772/2004 of 7 April 2004 on the application of Article 81 (3) of the Treaty to categories of technology transfer agreements [1]. This document regulates, inter alia, how businesses can protect and exploit innovations. The definitions presented in the following table are also included.

Table 1 Definitions of elements that regulate the protection of innovation

Subject	Meaning
Know-how	means a package of non-patented practical information resulting from experience and research [2]; [3].

Technology transfer agreement	Means a patent license agreement, a know-how licensing agreement, license agreement for the use of software copyright, or a mixed license agreement for the use of a patent, know-how, or software copyright, including any such agreement containing provisions relating to the sale and purchase of products or relating to the granting of licenses for the use of other intellectual property rights or the transfer of intellectual property rights, provided that these provisions do not form the subject-matter of the agreement and are directly related to the production of the products covered by the contract [4].
Product	Means goods or services, including both goods and services in progress as well as ready goods and services. It may be added that the product is also a collection of intangible and material qualities that have utility [5]. The product should be geared more to the benefits provided to the customer than to the value of the sale [6].
Intellectual property law	Includes industrial property rights, copyright and related rights.
Patent	Designations of patents, patent applications, utility models, applications for registration of utility models designs, topographies of integrated circuits, additional protection certificates for medicinal products or other products for which such supplementary protection certificates and certificates for plant growers may be obtained. . The patent is also referred to the product line strategy [7].

Source: [8]

Internationally (the term adopted by the International Chamber of Commerce) two types of protection of innovation have been identified, namely:

1. Formalized - it includes:
 - Patents;
 - Pattern registration;
 - Trademarks;

- Intellectual Property Rights;
 - Confidentiality and trade secrets agreements.
2. Non-formalized - it includes:
- Secrets not covered by contracts in legal proceedings;
 - complexity of products;
 - Significant time advantage over competition [9].

In 2012, the European Commission created the Commission Recommendation 2012/417 / EU of 17 July 2012 on access to and protection of scientific information. Its purpose was open access to scientific publications, which included the research and their results in their studies. With this approach small and medium-sized enterprises have easier access to the results of publicly funded research. Therefore, the main objective is to increase the innovation of all Member States. At the same time, the European Commission has presented numerous proposals for the protection and use of research. Some of the elements that have been presented need to be highlighted, they are:

- long-term protection of test results;
- Reassurance that mechanisms for the collection of scientific data in electronic form will be effective .

3. Analysis of Innovation Policy

Not only the legal protection has become a matter for the Commission, but also the support of Member States to implement innovation. COM / 2014/0339 final [10] states that reform is needed and that EU countries should focus on:

1. Implementation of new standards for strategy building mechanisms and policy making. The example of such an action may be the creation of a common research and innovation strategy;
2. Introducing new standards for programs, focusing on potential and financial mechanisms. In particular, this policy is to be based on research and innovation programs based on social problems or grants;
3. Incorporation of new standards leading to higher quality of research and innovation. This includes the use of public resources for research and innovation, which may result in increased entrepreneurship, international cooperation and the acquisition of trained staff with outstanding researchers.

The policy of innovation for decision-makers in Brussels has become a very important aspect, and the number of resolutions that have been introduced in the last decade has been shown in Table 2.

Table 2 EU resolutions on innovation

Date	Resolution
22.05.2008	Resolution on the mid-term review of industrial policy: contribution to the EU's growth and jobs strategy (2009 / C 279 E / 12). The document obliges the Commission and the EU Member States to expand their efforts to minimize the administrative burden of businesses. Information related to Intellectual Property Rights is also included.
16.06.2010	Resolution on the EU 2020 Strategy. Apart from identifying the emphasis on building and maintaining the

	competitiveness of the European economy, the importance of the Europe 2020 strategy has been highlighted, to show the costs and benefits of transforming the existing economy into a sustainable and energy efficient economy.
11.11.2010	European Parliament resolution on European Innovation Partnerships under the EU flagship initiative - Innovation Union.
09.03.2011	Resolution on industrial policy in the era of globalization. The document outlines the essence of a comprehensive approach to European industry in 2020.
12.05.2011	Resolution on the Green Paper. Guidelines for Member States on research and innovation funding were identified.
27.09.2011	Resolution on the Innovation Union. Identifying the European economy after the world economic crisis.
26.10.2011	Resolution on the Program for New Skills and Jobs. The document defines how collaboration between research institutes and companies should look. The method of funding and support for research and innovation has also been identified.
21.11.2013	Resolution on the proposal for a regulation of the European Parliament and the Council establishing Horizon 2020 - the Framework Program for Research and Innovation (2014-2020).
06.07.2016	Resolution on synergies for innovation.

Source: Own study based on: [11]

4. Intellectual Property Rights and Copyright

Another element in the analysis is the Intellectual Property Law and Copyright. The first of these aspects can be described as the result of human intellectual work and has an intangible nature. Intellectual property is understood in a very broad spectrum, in which there are various issues. Its constantly increasing importance as well as protection in the mechanism of shaping the competitiveness of the economy, determines the fact that this sphere should be promoted. This is because intellectual property at the present time is the essence of the attractiveness of a particular company. Intellectual property is considered on many levels, including:

- Copyright - any manifestation of creative activity of an individual character, defined in any form, regardless of the value, destination and the manner of the expression (work) [12]; [13]; [14].
- Related Rights - refers to the following types of intangible assets:
 - artistic realization;
 - phonograms and videograms;
 - broadcasts (e.g. radio or television programs);
 - first editions and scientific and critical editions.

Related rights subjects are closely linked to works, therefore, it is sometimes difficult to separate the sphere of copyright and related rights, in many cases occurring next to each other, often in the sole responsibility of one subject [15]; [16].

- Industrial Property Law - refers to the right of entities to patent for inventions, utility models, industrial designs, trademarks, service marks, trade names, designations of origin or names of origin, and to combat unfair competition. The Polish legislator added the topographies of integrated circuits and new plant varieties to these elements [17].

According to Art. 1 of the Copyright Act, there are some works distinguished which are subject to the law, namely [18]:

- written words, mathematical symbols, graphical signs (literary, journalistic, scientific, cartographic works and computer programs);
- art works;
- photography;
- violin-making;
- industrial design;
- architectural, architectural and urban, urban;
- music and word-music;
- stage, stage-musical, choreographic and pantomime;
- audiovisual (including film).

Those who want to get the protection of their product should familiarize themselves with the patent procedure, and this can be done within the framework of a Polish or European application.

When starting the procedure in Poland, the following documents should be sent to the Patent Office:

- application for a patent;
- explaining the invention with its characteristic;
- patent clauses;
- short description;
- drawings.

The protection frameworks which are to protect the company against the unlawful use of the patent should be included in one sentence and describe the technical characteristics. At the time the application is submitted to the Patent Office, this means that a formal patent application has taken place. Then *"the right to a patent acquires the features of a temporal, transitional law which is already expressly << a means for the purpose >> of obtaining a patent"* [19]. The application shall be deemed to have been made on the day on which it was received by the Patent Office.

Waiting time for patent decision is long and can last from 4-5 years. If the entity submitting the invention wishes to protect its rights also abroad, it must submit the relevant documents up to 12 months after the patent application has been filed in the Polish Patent Office. This term is determined by art. 4 of the Paris Convention for the Protection of Industrial Property of 20 March 1883. According to the guidelines, anyone who has filed an invention in a country in one of the States of the Convention has the right of priority in patenting the invention, which will be respected in the other countries that have ratified the Convention. In order for a convention to have legal effect abroad, it is also necessary to start the patent procedure in accordance with the law in force in the country concerned. You can also apply for legal protection to the European Patent Office in accordance with the European Patent Convention of 5 October 1973. You can also file a letter of application at the International Industrial Property Office (WIPO) in Geneva under PCT, based on the provisions of the Patent Cooperation Treaty of June 16, 1970. In the case of the last of these processes, an International Search Report (ISR) is being developed, which defines the possibility of obtaining a patent. If the report is negative, the applicant is entitled to an

International Preliminary Examination (IPE). *"The duration of the patent is 20 years from the filing date. Any infringement of a European patent shall be dealt with in accordance with national law"* [20].

It is also worth noting the costs to be paid for patent protection, and they include:

- official fees;
- patent levies (20 years of patent protection are divided into shorter, several years, or annual, periods of protection for which fees are payable);
- costs of legal service of a patent and patent application [21].

5. Conclusions

The result of this is how important the legal conditioning of innovation is. With special laws and ratifications, not only EU Member States, but all those who work in the field of international business are guaranteed protection of their inventions. In addition, EU companies have guaranteed assistance from the states and Brussels itself in research and innovation, not only from the financial but also administrative and legal aspects. These factors undoubtedly have an impact on the development of innovation, and by implementing new innovative products, unemployment on the labor market is reduced, and welfare and social wellbeing are increasing.

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HOMELESSNESS AND ITS PERCEPTION BY SOCIETY

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Abstract: *As a sociopathological phenomenon, homelessness has far deeper significance than it might seem at first glance, where the loss of one's own home becomes not only the loss of material values, but also non-material ones. In conditions within Slovakia, an ongoing insufficient examination of the homelessness issue can be witnessed whose results are reflected in practice not only in frequent distortion by the housed majority of information about homelessness, but also in the inability to find a comprehensive and lasting solution to it. This paper consists of both a theoretical and empirical part. While the theoretical part consists of basic theoretical reflections concerning homelessness, as an extreme form of social exclusion, the empirical part focuses on exploring the perception of homelessness and its various aspects from the point of view of the majority who have housing.*

Keywords: *homelessness, home, social exclusion, perception of homelessness*

1. Introduction

Nowadays, homelessness represents an extremely active and serious sociopathological phenomenon characterized by its far-reaching consequences not only for the lives of individuals who suffer from the loss of housing, but also for all of society [12].

In conditions observed in Slovakia and other countries in the former *Eastern Bloc*, the homelessness issue was brought to attention especially after 1989, when a transformation of society occurred in these countries. Considering that homelessness has still not been sufficiently mapped out and supported by research findings, it may be nevertheless considered a modern social phenomenon in Slovakia. The consequences of this situation may be reflected in frequent misunderstandings about homelessness by the majority that have housing, or the inability to take a decisive position on this issue due to minimum, and very often only distorted information about homeless people.

2. Homelessness and the attempt to terminologically define it

In considering homelessness as an extreme expression of social exclusion, it is necessary first to define the concept of social exclusion itself. It includes, in a wider context, several dimensions of exclusion [1] which can therefore affect the economic, social, political, community, individual, group or spatial dimension [2].

Concerning the rise of homelessness, no one can specify a singular, universal and generally true cause of homelessness since this phenomenon is affected by several factors of both an objective and subjective nature. In practice, however, these may often enough be interconnected [11].

Chronic homelessness can also be described as a syndrome of comprehensive social failure, combined simultaneously with the person's inability to cope with conventional social requirements. In this respect, homelessness is not exclusively associated with the space intended for everyday dwelling, but is mostly intangible in nature (sense of safety,

security, ...) [13]. Within such a context, it is very difficult to map the actual number of homeless people because they include not only people who have clearly and openly declared their social status, but also a group of hidden or potentially homeless people living either in substandard or poor housing conditions. Two different thoughts have emerged in society about what is causing the rise in homelessness. While the first opinion suggests structural weaknesses within society, which no one individual can influence, the second view argues that homelessness is strictly a failure by individuals observed in various aspects of his or her life (level of education, employment, health, etc.) [7]. When it comes to public space, the life of a homeless person is fraught with many risks and threats which non-homeless people do not normally encounter. Concurrently, homelessness is closely associated with increased health problems affecting not just physical health, but also mental health, too [10]. Homeless people often "escape" their mental illnesses through various addictive substances. In this connection, it could even be said that the homeless include those who are injecting drugs into their bodies. However, the administration of drugs by injection is fraught with extremely serious risks, accompanied by the risk of HIV and Hepatitis C transmission which threatens not only the individual's own health, but also public health [6]. Since the fall of Communism, homelessness has become a new social phenomenon in Central and Eastern Europe [5]. Yet the transformation of social conditions in these countries has not just caused the onset of homelessness, but also other sociopathological phenomena directly or indirectly related thereto (poverty, government housing policies, unemployment, etc.) [4]. Nowadays, there are two possible solutions to the issue of homelessness. One method consists of a gradual, "staircase" model of existing social services, starting with those of a low-threshold nature, and culminating with the homeless person becoming independent with his or her own housing. However, this model has been shown in a number of European Union member states as hardly effective [8].

The other solution model whose approach has received attention is Housing First, which has become part of the adopted strategy to tackle the situation of homeless people in several countries, providing social and affordable housing to minimize long-term homelessness in society [9]. Housing First motivates people who would normally not be able to obtain their own housing by maintaining affordable housing, while also providing them with other material and non-material benefits [3].

3. Objective and methodology

Based on the theoretical part and as part of this paper, we decided to continue quantitative research with a questionnaire covering the period from March 1 to June 15, 2017 in Trenčín, Slovakia, a city which has a low-threshold day center providing social services for homeless people. The overall response rate reached 79%. The sample consisted of 158 respondents living in the wider environment around the low-threshold day center who anonymously replied to a set of questions. This paper aims to identify the perceptions and attitudes of the respondents toward the homeless utilizing a range of social services in the closer social environment of those participating in the survey.

4. Results

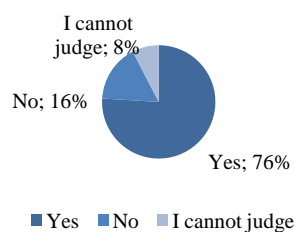


Figure 1 : Do you consider homelessness to be a significant and current social problem?

Regarding their perception of homelessness, 120 respondents considered it to be an extremely current and visible social problem. On the other hand, 26 respondents did not perceive homelessness as a major social phenomenon, while 12 respondents were either unable to comment on the issue or did not have an opinion.

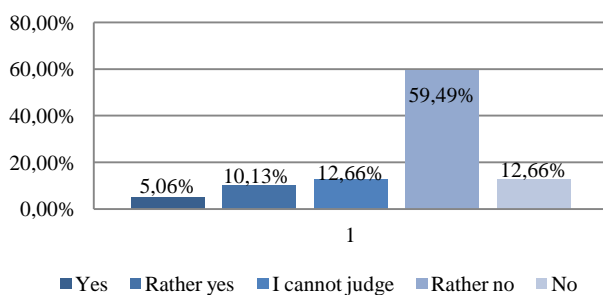


Figure 2: Do you believe that society is paying sufficient attention to the issue of homelessness?

It can be concluded from an analysis of the responses that an overwhelming number of respondents (114) feel that society does not pay sufficient attention to homelessness. On the other hand, only 24 respondents were of the opinion that today's society is giving the issue proper and sufficient attention, while 20 respondents were unable to express any opinion about the issue or take a position.

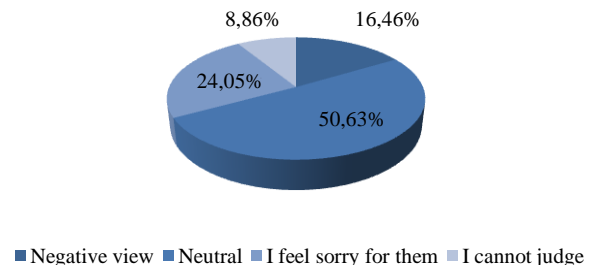


Figure 3: What is your personal opinion of homeless people?

We encountered very interesting opinions when examining subjective views by respondents about the homeless. The most common response seen was a neutral attitude regarding these people (80 respondents), followed by feelings of pity (38 respondents). Negative opinions towards the homeless and homelessness were expressed by a total of 26 respondents, while 14 respondents had nothing to say about the issue.

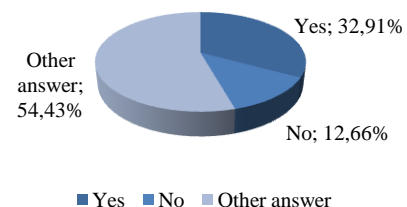


Figure 4: Do you believe that the homeless are themselves responsible for homelessness?

In examining responsibility for homelessness, 52 respondents were convinced that individual responsibility could be found for the rise of homelessness, while only 20 respondents believed that other factors were in the forefront. Something quite interesting was the option of "other answer", which 86 respondents entered and is consistent with the inability seen to generalize all homeless people and the cause for the rise in homelessness, while it demonstrates, on the other hand, the necessity of taking an individual approach toward each person when investigating homelessness.

Table 1 What do you think is the most common cause of the rise in homelessness?

No willingness or interest in working	13.58%
Breakdown in family or partner relationships	19.20%
Loss of shelter	18.74%
Departure of minors from children's homes	6.09%
Incapacity to integrate into society after being released from custodial sentences	10.30%
Mental issues	21.08%
Voluntary decision	6.09%
Cannot judge	3.04%
Other answer	1.87%

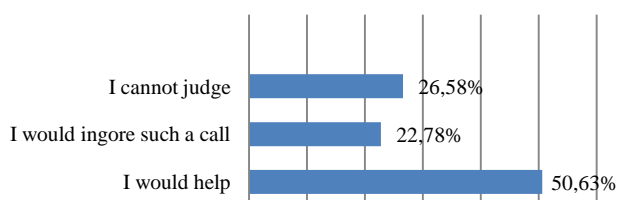


Figure 5: How would you respond if a homeless person asked you for help?

In this respect, a heterogeneity in opinion can be seen. While more than half of the respondents (80 persons) declared their concern and willingness to provide assistance when asked by a homeless person, 36 respondents would ignore and refuse to respond to such a call for help. A very interesting finding was the large number of respondents (42) failing to state an opinion; whether it was a positive or a negative attitude on their part toward the issue.

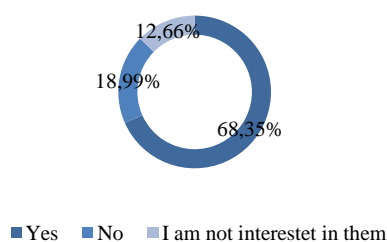


Figure 6: Have you ever in some way helped someone who was homeless?

Following up on the previous question, we were still concerned about whether respondents sometimes provided assistance in some way to homeless people. To this question, the highest number, 108 respondents, said that they had provided some kind of assistance, while the exact opposite answer was given by 30 respondents and the remaining 20 respondents expressed the opinion that they had no interest in this target group.

5. Discussion

The quantitative research demonstrated by us shows that most respondents perceive homelessness as a current and significant social issue to which society has not given enough attention. The dominant view expressed argues that homeless people do not themselves contribute exclusively to the loss of housing, with the presence of other reasons leading to the rise of homelessness. We also consider a major conviction among respondents not to morally condemn the homeless, with most respondents taking a neutral position or pitying people without homes. This view was confirmed by the fact that most of the respondents have helped the homeless in some way, or would not refused such a call from someone living on the street.

6. Conclusion

Homelessness can be characterized as a multi-faceted sociopathological phenomenon that is influenced by several factors and causes. In this context, no universal and unified scheme of homelessness can be stated, and as a result it is essential to prefer individual treatment for people who are homeless. The results from a quantitative survey show the public not to perceive homelessness negatively, although in order to obtain a better understanding of homelessness, it is necessary for further research to be carried out to find and address it in society also in future.

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CONTRADICTORY PROCESS WITH ANONYMOUS WITNESS

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Abstract: *The Article which I prepared for CER - International Scientific Conference for Ph.D. students of EU countries, is approach of very specific issue in process in trial. The Article points out how the European Court of Human Rights judges violation or not violation of the right to a fair trial in cases with anonymous or absent witness (very often as sole or decisive evidence).*

Keywords: *witness, anonymity, contradictory process, fair trial.*

1. Introduction

The duty to testify about facts important for the criminal proceedings according to criminal procedures acts of member states is one of the basic duties of every citizen of the European Union. Not only the victims but also the witnesses are afraid of testify. Some witnesses are anonymous and protected and in some cases they absent in the main trial. Procedural measures for witness protection are getting beyond question into collision with the defendant's right to effective defense, which awakens European case law to the effort to set the boundaries of application of evidence that have been based on testimonies of anonymous witnesses. The European Court of Human Rights several times stated that this process represents highly difficult search for balance between the rights of defendant, especially the right to a fair trial, on one hand and between the rights and interests of witnesses and victims on the other hand.

2. Contradictory process and the right to a fair trial

European Court of Human Rights decided many cases about violation of fair trial because there was found not fulfilling the process contradictory. The contradictory comes from the Latin word „*contra dicere*“. This process means in practical way that in each proceedings is necessary to maintain the rights of both side - the defense and the prosecution – to have the same opportunity to know the evidence presented by the other side, including the possibility of examine them.

Right to a fair trial we can find in Article 6 paragraph 1 and Article 6 paragraph 3 d) in the European Convention of Human Rights [1].:

Article 6

Right of a fair trial

1. In the determination of his civil rights and obligations or of any criminal charge against him, everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal established by law. Judgment shall be pronounced publicly but the press and public may be excluded from all or part of the trial in the interests of morals, public order or national security in a

democratic society, where the interests of juveniles or the protection of the private life of the parties so require, or to the extent strictly necessary in the opinion of the court in special circumstances where publicity would prejudice the interests of justice.

3. Everyone charged with a criminal offence has the following minimum rights:

(d) to examine or have examined witnesses against him and to obtain the attendance and examination of witnesses on his behalf under the same conditions as witnesses against him;

3. The case law with using anonymous witness

The wording and the case-law of Article 6 paragraph 3 d) European Court of Human Rights support the principle of equality of arms which underlines Article 6 in its entirety. A significant line of cases has clarified the right of an accused to a fair trial and specifically the right to confront and cross-examine witnesses. The Court has often found violations of Article 6 paragraph 3 d) where convictions have been based on the testimony of anonymous witnesses unavailable for questioning by the side of defence:

- Kostovski v. the Netherlands [2]
- Windisch v. Austria [3]
- Others.

The European Court of Human Rights also found violations where the witnesses were anonymous police officers:

- Van Mechelen and others v. the Netherlands [4]
- Others

In several cases the European Court of Human Rights has dealt with the issue of anonymous witnesses indirectly or by stating that there was a violation of Article 6 paragraph 3 d) on the ground that the statements of the anonymous witness had been the sole or decisive reason for a conviction or by stating that there was no violation because these statements were corroborated by other evidence:

- Delta v. France [5],
- Unterpertinger v. Austria [6],
- A.M v. Italy [7]
- Others

4. Test of anonymous witness respecting a rights to a fair trial

4.1. The Doorson's test

Unification of case law in meaning of written rules can we find probably firstly in the case - Doorson v. Netherlands.[8]

Mr. Doorson was identified as a drug dealer by a number of witnesses who were known to be drug - users. He was placed on trial. Six of the witnesses who identified him, remained anonymous as they feared a reprisal from Mr. Doorson – the identities of a further two were disclosed. Mr. Doorson's lawyer asked the court to summon these anonymous witnesses but was refused. Of the two identified witnesses, only one appeared at trial and that witness withdrew his statement. The evidence of the second identified but absent witness was therefore read out in court. Mr. Doorson was convicted as charged.

On appeal, the need for the witnesses to remain totally anonymous was brought into doubt, and they were subsequently questioned extensively by the judge and Mr. Doorson's lawyer (though not in the presence of Mr. Doorson). The Court of Appeal and later the Supreme Court upheld his conviction based on three separate elements:

- 1) the oral evidence of the witness who was questioned at trial but withdrew his statement to the police
- 2) two anonymous witnesses who were questioned orally and cross - examined by Mr. Doorson's lawyer
- 3) one witness who made a statement to the police and then disappeared

The European Court of Human Rights found no violation of Article 6 paragraph 1 taken together with Article 6 paragraph 3 d) of the Convention.

In the context of that judgment, the European Court of Human Rights formulated the "conditions" for the assessment of the fair trial in cases with anonymous witness:

- a) The conviction should not be based either solely or to a decisive extent on anonymous statements.
- b) Relevant reason to allow witness anonymity.
- c) Evidence obtained from witnesses under conditions which the rights of the defence can not be secured to the extent normally required by the Convention should be treated with extreme care.
- d) The handicaps under which the defence laboured need to be sufficiently counterbalanced by the procedures followed by the judicial authorities.

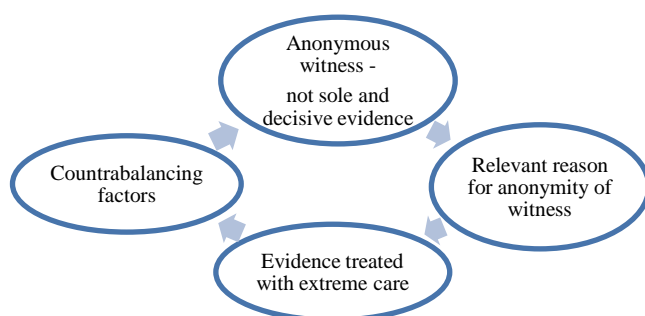


Figure 1: The Doorson's test

This type of test was normally using in assessment of contradictory process with anonymous witness by the European Court of Human Rights and national courts. The Doorson's test was replaced breakthrough judgement with new test which has been used till now.

4.2. The Al Khawaja and Tahery's test

The case of Al-Khawaja and Tahery v. The United Kingdom [9] brought new view of assessing the right to a fair trial by absent (anonymous) witness.

4.2.1. The case of Mr. Al-Khawaja

While working as a consultant physician Mr. Al-Khawaja was charged on two counts of indecent assault on two female patients while they were allegedly under hypnosis. One of the complainants, "ST", committed suicide before the trial. Prior to her death she had made a statement to the police.

At the trial it was decided that ST's statement should be read to the jury. The judge stated that the contents of the statement were crucial to the prosecution on count one as there was no other direct evidence of what had taken place. The defence accepted that if the statement were read to the jury at trial they would be in a position to rebut it through the cross-examination of other witnesses.

During the trial, the jury heard evidence from a number of different witnesses, including the other complainant and two of ST's friends in whom she had confided promptly after the incident. The defence was given the opportunity to cross-examine all the witnesses who gave live evidence. In his summing up, the trial judge reminded the jury that they had not seen ST to give evidence or be cross-examined and that the allegations were denied.

Mr. Al-Khawaja was convicted by a unanimous verdict on both counts of indecent assault. He was sentenced to a 15-month custodial sentence on the first count and a 12-month custodial sentence on the second count, to run consecutively.

4.2.2. The case of Mr. Ali Tahery

On 19 May 2004 during a gang fight he allegedly stabbed another Iranian, S., three times in the back and was subsequently charged with wounding with intent and attempting to pervert the course of justice by telling the police that he had seen two black men carry out the stabbing.

When witnesses were questioned at the scene, no-one claimed to have seen the applicant stab S. Two days later however one of the witnesses, T., made a statement to the police that he had seen Mr. Tahery stab S.

During Tahery's trial was the witness T. in anonymity and the prosecution applied for leave to read T's statement on the ground that he was too frightened to appear in court. The trial judge allowed his written statement to be admitted as evidence but warned the jury about the danger of relying on T's evidence, as it had not been tested under cross-examination. The applicant was convicted of wounding with intent to cause grievous bodily harm and sentenced to 10 years and three months imprisonment.

Al-Khawaja and Tahery complained to the Strasbourg Court that their rights under Article 6 paragraph 1 taken together with Article 6 paragraph 3 d) of the Convention had been violated.

4.2.3. Opinion of the European Court of Human Rights

The Court held that Article 6 mainly requires it to assess the overall fairness of criminal proceedings. The right to examine a witness contained in Article 6 paragraph 3 d) is based on the principle that, before an accused can be convicted, all the evidence must normally be produced in his or her presence at a public hearing so that it can be challenged.

In Al-Khawaja's case the judge's direction as well as the evidence offered by the prosecution had enabled the jury to conduct a fair and proper assessment of the reliability of ST's allegations against Mr. Al-Khawaja. There had been no violation of Article 6 in his case. Mr. Tahery's conviction on the other hand had been based solely on the statement of an absent witness, and there had been insufficient counterbalancing factors to compensate for these difficulties. In case of Mr. Tahery was violation of Article 6 paragraph 1 taken together with Article 6 paragraph 3 d) of the Convention.

It is necessary to note that problems arising from the use of testimony of absent and anonymous witnesses are essentially the same. The principles applied from the judgement for both model (absent/anonymous witness) are:

- a) There has to be a good reason for non – attendance/ (or anonymity) of a witness.
- b) The evidence of the absent (anonymous) witness was the sole or decisive basis for the defendant's conviction
- c) Whether there were sufficient counterbalancing factors to compensate for the handicaps under which the defence laboured

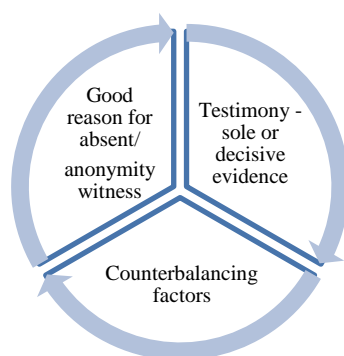


Figure 2: The Al-Khawaja and Tahery 's test

4.3. The Schatschaschwili's test

The case concerned the complaint by Swiadi Schatschaschwili v. Germany [10], convicted of aggravated robbery and extortion, who maintained that his trial had been unfair, as neither he nor his counsel had had an opportunity at any stage of the proceedings to question

the only direct witnesses to one of the crimes allegedly committed.

The court found that, in view of the importance of the statements of the only eyewitnesses to one of the offences of which Mr. Schatschaschwili had been convicted, the counterbalancing measures taken by the trial court had been insufficient to permit a fair and proper assessment of the reliability of the untested evidence.

In particular, although under German law the prosecution authorities could have appointed a lawyer for him at the investigation stage and that lawyer would have had the right to be present at the hearing of the witnesses before the investigating judge, those safeguards had not been used.

In this case the European Court of Human Rights found not violation of Article 6 paragraph 1 taken together with Article 6 paragraph 3 d) of the Convention. During accessing the case was more modified Al-Khawaja and Tahery's test in the following version:

- a) Addition 1. step - there has to be a good reason for non – attendance (or anonymity) of a witness.

The European Court of Human Rights stated that good reason for the absence of a witness must exist from the trial court's perspective, that is, the court must have had good factual or legal grounds not to secure the witness's attendance at the trial. The fact that the domestic courts were unable to locate the witness concerned or the fact that a witness was absent from the country in which the proceedings were conducted was found not to be sufficient in itself to satisfy the requirements of Article 6 paragraph 3 d), which require the contracting states to take positive steps to enable the accused to examine or have examined witnesses against him. Such measures form part of the diligence which the contracting states have to exercise in order to ensure that the rights guaranteed by Article 6 are enjoyed in an effective manner.

- b) Addition 2. step - the evidence of the absent (anonymous) witness was the sole or decisive basis for the defendant's conviction

The second steps was added in meaning where the untested evidence of a witness is supported by other corroborative evidence, the assessment of whether it is decisive will depend on the strength of the supporting evidence. The stronger the corroborative evidence, the less likely that the evidence of the absent witness will be treated as decisive.

- c) Addition 3. step - whether there were sufficient counterbalancing factors to compensate for the handicaps under which the defence laboured

The European Court of Human Right has to take into account, whether the domestic courts provided detailed reasoning as to why they considered that evidence to be reliable, while having regard also to the other evidence available. In cases in which a witness is absent and cannot be questioned at the trial, a significant safeguard is the possibility offered to the defence to put its own questions to the witness indirectly, for instance in writing, in the course of the trial. Another important safeguard countering the handicaps under which the defence labours as a result of the admission of untested witness evidence at the trial is

to have given the applicant or defence counsel an opportunity to question the witness during the investigation stage.

5. Conclusions

In my article I tried to explain which rules should be followed by national courts in cases where we have testimony of anonymous witness or absent witness (in main trial). The process is more difficult when this type of evidence is sole or decisive. This type of witness are very rare but also helpful for explanation of the most serious crime. I have studied more than eighty judgements of European Court of Human Rights for outline of simplified version individual tests which find out contradictory process in this matter. First “test” where we can speak about written conditions was in case of Mr. Doorson which was precursor of the breakthrough *Al-khawaja and Tahery’s* test in connection with *Schatschaschwili’s* test. The conditions mentioned above are very synoptical helper in finding of “fulfillment of conditionals in a fair trial”.

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IN SEARCH OF THE SELF-EMPLOYMENT MODEL IN POLAND: WHAT IS TO BE DONE?

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Abstract: *The main research hypothesis is the conclusion that there is no comprehensive regulation, which would standardize fully and completely the most significant aspects of the work of those operating within the self-employment framework and the special legal status of such persons. Polish lawmakers show no coherent approach to the concept of self-employment, and the legal solutions regulating the situation of this category of workers are fragmented and rather random. This causes a number of controversies and doubts, both in the doctrine of law and judicial decisions, making the status of this group of workers unclear. That is why the urgent need to develop a coherent and comprehensive legal model of self-employment in Poland is fully justified. According to the author, it is justifiable to extend the protection of labour law regulations for those self-employed persons who perform work under conditions of economic dependence on the contracting entity, understanding at the same time that the scope of this protection may not be as wide as the one granted in case of genuine employment relationship.*

Keywords: *self-employment, autonomous work, labour law, comparative research*

1. Introduction

According to the recent OECD statistics, the self-employed in Poland represent 23% of all employed people, which is a clearly higher number compared to the EU average of 16%. The main objective of the foregoing research is to provide a basis for a comprehensive legal analysis of the institution of self-employment, not only from the perspective of the legal regulations and the judiciary in force in Poland, but also in terms of the solutions existing in international and European Union law, as well as in selected European countries. The results of the research should help to develop an original legal model of self-employment, which would redefine the special legal status of self-employed persons. The article highlights the need to conduct a theoretical analysis of the terminology used to describe the institution of self-employment (attempt to provide an accurate definition), determining the way to regulate self-employment and the form of such regulation; explaining why it is necessary for the self-employed to have the right to use the protection granted by legislature to workers employed on the basis of the employment relationship; determining the scope of such protection as well as the most important criteria for its differentiation; theoretical analysis of self-employment as one of the basic instruments used in tackling unemployment and generating new jobs; development of a uniform and coherent concept of self-employment in the Polish social security system; theoretical analysis of the 'bogus self-employment' and assessment of the effectiveness of the mechanisms in Polish legal system in force to the extent of countering this problematic phenomenon.

The main research hypothesis is the conclusion that there is no comprehensive regulation, which would standardize fully and completely the most significant aspects of the work of those operating within the self-employment framework and the special legal status of such persons. According to the author of the article, it is justifiable to

extend the protection of labour law regulations for those self-employed persons who perform work under conditions of economic dependence on the contracting entity, understanding at the same time that the scope of this protection may not be as wide as the one granted in case of genuine employment relationship.

2. Methodology

The author should use a few research methods due to the multifaceted nature of the analysis of the legal situation of the self-employed and the interdisciplinary approach to the issue in question which does not allow to use only one method. The comparative legal analysis should be used broadly. A thorough and multifaceted analysis of the legal solutions applicable in the subject of self-employment in other countries is needed. The research should also widely use the method based on logical and linguistic analysis and axiological method, which, taking into account the specificity of labour law, is fully justified. From the perspective of the nature of deliberations started during the research, historical method should also prove useful. It will allow to show amendments introduced in Polish legislation to tackle to problem of bogus self-employment as well as to the extent of covering the self-employed with selected provisions of labour law (such as the protection to the extent of health and safety at work). To assess the effectiveness of the laws in force in the field of self-employment regulations (e.g. in terms of preventing bogus self-employment or to motivate natural persons to undertake independent economic activity on their own account) it will be helpful to make use of statistical methods. A complementarity of the above mentioned methods should allow for rigorous and multi-layered analysis of the research problem.

3. What is to be done?

Since the beginning of the 1990s Poland has been observing the development of flexible forms of

employment. This is a process whose essence is defined by the enterprises offloading the risk onto the contractors employed. Among the many different forms of flexible employment for quite some time the most popular one has been "*self-employment*", also referred to sometimes as "*working for yourself*", "*independent economic activity*", or "*economic activity carried out by natural persons*". The total number of self-employed persons, according to the research conducted by the Central Statistical Office of Poland [GUS] is more than 3 million people, where nearly 2 million are men (about 70%). Most of the self-employed do not employ paid workers (ca. 2.25 mln) and self-employment is predominantly represented in the services sector, where more than half of the employees are sole traders. The most important reason of the growing popularity of self-employment is the increase of the competitiveness in the market that forces the necessity of reducing the cost of doing business. Using the work of self-employed persons allows employers to significantly reduce employment costs compared to the traditional employment relationship. First, all regulatory charges (both tax and social security related ones) are shifted on the self-employed. Secondly, the employer offloads the whole social risk associated with hiring employees (this risk by law assumed by each employer within the employment relationship) on the self-employed person. In particular, there is no paid vacation or other statutory sick pays, no compensation for working overtime, and self-employed persons, despite the fact that they very often work under conditions of economic dependence on the employer, are devoid of most social rights and privileges enjoyed by the employees performing their work under a traditional employment relationship. In addition, the wide-scale use of self-employment guarantees the flexibility of the pursued employment policy. The use of the work of self-employed persons allows employers, who do not have to be affected by the constraints specific for the employment relationship (constituting the general and the particular protection of the durability of that relationship), to adjust the level of employment to their real needs, and respect the economic situation and the dynamically changing economic times. Another major reason for the prevalence of self-employment in Poland and other European countries is the perception of this form of activity as one of the fundamental instruments for the creation of new jobs in the economy. Development of self-employment is an important mechanism for tackling unemployment and professional activation of people out of work and constitutes an important factor in the reduction of the so called 'grey zone'. By setting up their own business activity a natural person is not only deprived of the status of the unemployed, but also creates the opportunity to generate new jobs in the future in case of the successful development of the company. Therefore, the government policy in the fight against unemployment is to create mechanisms to facilitate individuals to undertake work on a self-employed basis as a form of an independent economic activity. The increased interest in self-employment can also be explained by the specific social manifestation of such attitudes as resourcefulness and creativity stimulating the natural

persons to take up and pursue their own business and incur the associated risks [1].

The next research task shall include the theoretical analysis of the terminology used to describe the institution of self-employment. In Poland's legislation in force there is no legal definition of this concept. The difficulties with the interpretation of the term "self-employed" stem from the fact that self-employment has a complex nature, and, additionally, there is a variety of activities that can be carried out within the framework of this institution. The scope of the self-employment concept includes both natural persons performing their business activity based on the entry into the Business Activity Register, as well as natural persons conducting business activity in the form of partnership or acting on the *freelance* basis. This situation leads to far-reaching divergences in the interpretation of the term "self-employed" in economic sciences, and the doctrine of law. Consequently, it is really difficult to specify which entities can fall into the category of the self-employed. Speaking broadly, the concept of self-employment refers to the type of business activity in which the person carrying out the activity, from a legal point of view, bears all the property consequences and the business risks related to its implementation, placing the unlimited liability on the sole trader himself/herself [2]. Evidently, the phenomenon to be analyzed applies to natural persons having the status of a self-employed person within the meaning of the Act on Freedom of Economic Activity. In the doctrine of law however, there are significant differences as to the additional conditions which must be satisfied by the natural person to be awarded the status of a 'self-employed'. First of all, the question is whether self-employment refers only to the situation when the individual provides their services exclusively or mainly for one contracting entity, so that there is a relationship of economic dependence between them (the so-called dependent self-employment), or perhaps the phenomenon also applies to cases of the provision of services to a few (many) contracting entities (also called independent self-employment) [3]. Secondly, it is also problematic, whether the term *self-employed* should apply only to individuals who render their services to the contracting party without hiring any third parties, or whether this status should also be attached to individuals engaging some third parties to run their business acquiring at the same time the status of employers.

The most important task is the attempt to create a legal model of self-employment in Poland. In the current state of the law, there is no comprehensive regulation, which would standardize fully and completely the most significant aspects of the work of those operating within the self-employment framework, such as: the principles for the provision of services, working conditions, social protection and insurance and the special legal status of such persons. Polish legislature shows no coherent approach to the self-employment, and the legal solutions regulating the situation of this category of workers are fragmented and rather random. Due to the lack of legal regulations which would comprehensively and systemically standardize the rules related to the performance of work within the self-employment framework, and hence the legal status of this

group of people, the general provisions of the constitutional law, commercial law, civil law, social security law, and tax law must apply. Following a comprehensive analysis of the regulatory framework, the aim of the research shall be the explanation of why it is necessary to prepare comprehensive regulations setting out the basic principles of operation and the special status of the self-employed persons. The research should consider the way of regulating the aforementioned issue and the form of such regulation (whether it is to be a uniform legislative act, or perhaps specific provisions in various acts already in force). The problem is also to specify the scope of the legal solutions governing the phenomenon of self-employment. With reference to the above mentioned issue, the most important research task will be to find the answer to the question of whether the person performing the work on the self-employment basis should benefit from the protection provided by the legislature for the employees performing their work under traditional employment relationship. As a general rule, self-employment is not the subject regulated by labour law providing guidelines for paid employment, now more commonly referred to as the voluntary subordinate employment, where the worker (employee) undertakes to perform specified activities for the contracting party (the employer) under his/her supervision, in a place and time designated by him/her, and at the risk of the employer. Whereas, the service provided by the self-employed person is carried out under conditions of autonomy and lack of subordination with respect to the contracting entity as to how to do the job and under the sole risk of the worker (sole trader), rather than the contracting entity. However, it should be noted that self-employed persons, especially if their services are provided for only one contracting party, remain in a strong economic dependence on this entity. Such dependence is of course of a completely different nature than in the case of employee subordination. It is multifaceted, and may be manifested in particular by: control of the tasks performed; assessment of the results of the work performed by the self-employed (with possible consequences of reducing the pay or termination of the contract); some elements of subordination as to the place and time of work and the specific order and organization of work. Despite the different nature of such dependence on employee subordination, the situation of the persons providing the work within self-employment in many areas, however, conforms substantially to the situation of employees performing their work under traditional employment relationship. It is therefore necessary to consider whether the self-employed persons performing their work under conditions of economic dependence on the contracting entity should, similarly to persons employed on the basis of the employment relationship, be provided the protection regulated by the provisions of the labour law. According to the research hypothesis formulated by the author, such protection granted to self-employed people is fully justified. The scientific aim of the research shall include the determination of the scope of such protection and the criteria which would be used to diversify the scope of protection granted. Undoubtedly, such protection may not be as wide as the one granted to the employees performing their work on the basis of the employment relationship.

Pursuant to the provisions of labor law in force, self-employed persons who work in an enterprise belonging to the contracting entity organizing their work, are guaranteed protection to the extent of occupational health and safety. In addition, the legislature also provides for specific provisions on the protection of self-employed persons against discrimination and unequal treatment. The author should have to assess whether the current scope of protection is sufficient and what other protective mechanisms characteristic of the staff employment should apply to the self-employed. In the doctrine of the law there are opinions, that self-employed workers should also benefit from the protection regarding the remuneration for their work (e.g. a guarantee regarding the minimum wage, or a prohibition of renouncement of the right to remuneration), protection of maternity and working time, and the right to rest and leisure. The problem tackled in the research is part of a wider debate on the future of labour law and its scope. Some representatives of the legal science are in favour of the expansion of the concept of labour law on the non-employee employment relations (including self-employment), which would result in replacing the labour law with the so-called employment law.

In order to create an optimal legal model of self-employment in Poland, it is necessary to analyse the regulations of self-employment in force both in the European Union, as well as in the selected European countries, such as: Germany, Austria, France, United Kingdom, Netherlands, Italy, Spain, Sweden and Hungary. In France, the definition of self-employment has been included in the national law. It contains a division of self-employment into different categories, for example, experts in fields of industry and craft, and *freelancers* (lawyers, doctors, architects, etc.). This definition refers to the performance of the tasks or work independently from the client premises and tools in exchange for compensation in the form of a wage. These requirements to a large extent correspond to the contractual employment relationship, with a significant difference regarding the criterion of independence. Lack of subordination is the most important determinant of the statutory definition of self-employment in France. Legislation in this country, on the one hand, has adopted the principle of the presumption of self-employment, on the other hand, encouraged legal mechanisms for the protection of the family assets of the sole traders extending the social protection of the self-employed. In Germany, on the other hand, there is no legal definition of self-employment (*Selbständiger*). There is a hybrid category which is a combination of an employee and a dependent self-employed person, who works mainly for one entity and does not hire any employees subject to social insurance contributions. This category includes free service contractors, who, from the perspective of labour law and social insurance, are still considered mainly self-employed. Self-employed persons are not subject to labour law and social security system, and therefore do not have any rights, in accordance with the law, including administrative law or collective bargaining. However, the subsequent reforms of the legislation led to the fact that most of the instruments of social security have been provided on the principle of

voluntary participation, which enabled the self-employed to get the protection comparable to the one granted to the employees under a traditional employment relationship. In Italy there are two categories of hybrid employment: (I) agreements on continuous and coordinated cooperation (Co.co.co.-collaborazioni coordinate e continuative) and (II) agreements to perform a specific project (co.co.pro.-collaborazioni continuative and progetto). The self-employed persons traditionally include individuals such as, craftsmen, small entrepreneurs and traders employing or not employing workers. In addition to this, there is a heterogeneous group called *liberi professionisti* (liberal professions / freelancers), including not only self-employed persons, representatives of the liberal professions (such as lawyers, doctors, journalists, architects, notaries), but also the so-called freelancers VAT payers. The Act No 92/2012 (Fornero Reform) regulates any activity carried out by the self-employed who were assigned the VAT number. According to the new regulations self-employment is considered as "coordinated and continuous relationship", creating employment relationship if at least two of the following conditions are met: (I) the relationship lasts a total of more than eight months in the same year; (II) the income obtained from such a relationship is more than 80 percent of the total remuneration received by an employee in one year, and (III) the contractor has their own place of work in the premises of the employer. The new rules have been applied to self-employment since July 2012. When it comes to Spain, in 2002, the trade unions initiated the creation of the right whose purpose was to guarantee the consistent extension of rights for economically dependent contractors. The proposal was adopted in the Act No. 20/2007 (11 July 2007). At the same time the legislation regulating the situation of economically dependent autonomous contractors was introduced. The Act now provides a comprehensive legal framework for the protection of the rights of all the self-employed, as well as provisions taking into account situation of the dependent self-employed. When UPTA (Union de Profesionales y Trabajadores Autónomos) proposed a bill, they raised the argument that the new production models changed traditional autonomous employment, not only in terms of quantity, but also changed the traditional morphology on the basis of which autonomous work used to develop. These "new combined models of employment" had some characteristics of subordinate employment, even if they were officially recognized as self-employment. These were situations of parasubordinated employment or autonomously dependent employment (*trabajo parasubordinado* or *trabajo Autónomo dependiente*), in which the contractor offered his/her services in a coordinated manner to one or more companies, on which he/she became economically dependent (A. Perulli). The Spanish legislation has several requirements that must be met in order that an employee would be considered as autonomously dependent.

The next research task is to perform the theoretical analysis of self-employment as one of the fundamental instruments for the creation of new jobs in the economy. Due to the fact that the development of self-employment is an important mechanism for tackling unemployment and professional

activation of people out of work, the aim of the research should be to assess the effectiveness of the solutions provided for by the Polish legislators to facilitate individuals to undertake self-employment as sole traders.

The research also aim at providing a theoretical analysis of self-employment made from the perspective of the social security law and attempt to develop a uniform and coherent concept of self-employment in the Polish social security system.

Another significant objective of the research shall be to provide the theoretical analysis of the phenomenon of bogus self-employment, which occurs on a large scale in Poland [4].

4. Conclusions

The results of the research should help to redefine the special legal status of self-employed persons contributing to the settlement of many disputes and clarifying a number of doubts that currently exist in the doctrine of law and judicature. Final conclusions of the research should constitute a significant contribution to the development of the science of labour law and social security law, enriching the scientific discourse. Polish science may additionally benefit from the development of a systematic and cohesive study of foreign regulations regarding self-employment. Achieving the objectives of the foregoing research should have a universal meaning for the labour law science. The results of the research should allow, in fact, to indicate new directions for the development of labour law and consider the reasons for extending the regulatory protection of labour law on the different categories of persons providing work under economic dependence on the contracting entity, as well as the scope of protection and the most important criteria for its differentiation. The results achieved may also have a real impact on reducing unemployment (increasing the efficiency of the legal incentives for setting up your own business) and on the limitation of the so-called bogus self-employment, which, as a pathology, is now a great social problem.

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IMPLICATIONS OF TRUMP'S TAX REFORM FOR THE FINANCIAL MANAGEMENT OF U.S.-BASED MULTINATIONAL ENTERPRISES (MNEs)

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Abstract: *The U.S.-based multinational enterprises (MNEs) have been intentionally keeping their huge amount of overseas profits in tax-haven countries to avoid U.S. tax obligations. The reason is that the U.S. adopts the worldwide taxation system with the highest corporate tax rate in OECD countries. In contrast, major industrialized countries have been lowering their corporate tax rates in the past decades and are transferring the worldwide taxation system to a territorial system to tax only domestic incomes and ignore the worldwide earnings. The Trump administration has recognized the problem and proposed a significant tax cut bill to match the global taxation trend. Overall, Trump's proposal is favorable to the U.S. MNEs. However, it will also put MNEs in a critical position to decide on a suitable strategy to repatriate past overseas profits and their corporate inversion operations. There is still a plenty of time to make such a plan because detailed regulations will most likely be formed in 2018. In the meantime, the process may create a significant impact on the financial market, particularly the bond market, because most retained overseas profits are kept in Treasury bonds. In addition, Trump's tax reform may affect MNEs' capital budgeting plans because of the weakened tax deduction effect of debts. Furthermore, MNEs will be exposed to a more volatile foreign currency exchange market due to an anticipated appreciation of the U.S. dollar. Clearly, MNEs' financial managers will have a tougher job managing MNEs' foreign currency exchange rate risks and the global capital budgeting.*

Keywords: *Multinational enterprise, corporate tax rate, taxation system, Trump tax reform bill.*

1. Introduction

In business, tax is just one of many business costs and it is not in a business's best interest to make minimizing tax cost the first priority [1]. In international business, a multinational enterprise (MNE) gets access to multiple foreign resources favorable to control its production and operational costs, to increase its sales, to acquire needed capital with a lowered cost, and to pursue countless investment opportunities [2]. Challenges arise from the interaction with various cultures, the influence of multiple political and legal systems, and the regulations of different financial rules and tax codes. Due to the complexity of various issues involved, for an MNE, minimizing financial risks embedded in the foreign currency exchange [3] and reducing the entity's global tax burden [4] are as important as maximizing the corporate total profits.

To a U.S.-based MNE, the uniqueness of being burdened with the highest corporate tax rate of 38.9% among OECD countries [5] has driven MNEs to create tax-haven subsidiaries in countries like Bermuda, the Cayman Islands, Panama, and others [3], so as to keep their overseas profits away from the U.S. government. Some companies even settled their headquarters overseas to avoid direct U.S. taxation [6]. The benefit of retaining profits overseas also includes the automatic prevention of any financial losses caused by the foreign currency exchange because earnings will not be exchanged to the U.S. dollar and any sudden appreciation of the U.S. dollar will not cause financial losses to the company.

Tax avoidance by U.S. MNEs has been a serious presidential-election debate issue for many years because most politicians believe that by doing so, MNEs have shifted numerous jobs out of the U.S. Studies indicate that

there are about 14 million outsourced jobs which have been moved out of the U.S. and this is more than the current 7.5 million unemployed Americans [7]. Politicians therefore reason that if MNEs could repatriate their overseas profits, the U.S. unemployment rate would significantly decrease. In September 2017, the Trump administration announced a tax reform plan to simplify the tax code and to cut the personal and business tax rates [8]. In this study, Trump's tax reform plan is analyzed and its effects on U.S.-based MNEs are explored.

2. Global Corporate Taxation Trend

The U.S. adopts the worldwide taxation approach so that each company's worldwide earnings are incorporated in the parent MNE's tax filing return [9] to be taxed with the highest corporate tax rate among OECD countries. If tax deductions and credits were considered, Japan, the U.K., and the U.S. are then hold the top three highest corporate tax rates of 21.7%, 18.7%, and 18.6%, respectively [5]. Currently, there are approximately \$2.5 trillion in corporate earnings staying overseas [10]. Apple, Microsoft, Cisco, Google, and Oracle are the top five companies holding the biggest overseas cash piles [11]. Most interestingly, those foreign earnings were used by MNEs to purchase the U.S. Treasury bonds to earn interest paid by the U.S. government. For instance, Apple received more than \$600 million in interest in 2011-2016 by holding Treasury bonds purchased with its overseas profits [12].

To reduce their tax burden, MNEs create tax-haven subsidiaries in countries with a low taxes on foreign investment or income, a stable currency, good supporting facilities, and a stable government [3]. Moreover, some

American companies move their headquarters overseas to avoid the worldwide taxation by the U.S. government. For instance, by merging with a foreign company, a U.S.-headquartered company moves its legal headquarter overseas. This action is called "corporate inversion" and is usually done only on paper without actually moving the company's operations overseas so that the company can still make use of all benefits of a U.S.-based firm [13].

If a high corporate tax rate has been the driving force behind MNEs' corporate inversion effort, what have other countries done about this issue? Actually, most industrialized countries have been reducing corporate tax rates in the last decades in order to remain competitive in the global market. Table 1 shows the changes of the statutory corporate tax rate of G7 countries from 2000 to 2017. The U.S. corporate tax rate has reduced by only 0.8%, and is outpaced by France with a 9% reduction. Moreover, five other countries all show an impressive 29.6% ~ 41.9% reduction. Other studies also indicate that more than 90% of OECD countries have reduced their corporate tax rates since 2000 and the average corporate income tax rate for the top 50 countries has dropped from 37.5% in 2000 to 31.9% in 2010 [14].

Table 1 Changes of the statutory corporate tax rate (data source: [15]) and the contribution of the corporate tax revenue to total tax revenue (data source: [16]) of G7 from 2000 to 2017.

G-7 Country	Statutory corporate tax rate (%)		Percent change (%)	Contribution of the corporate tax revenue to total tax revenue (%)		Percent change (%)
	2000	2017		2000	2017	
Canada	43.6	26.7	-38.8	12.2	9.8	-19.7
France	37.8	34.4	-9.0	6.9	4.6	-33.3
Germany	52.0	30.2	-41.9	4.8	4.7	-2.1
Italy	39.5	27.8	-29.6	6.9	4.8	-30.4
Japan	43.3	30.0	-30.7	13.8	12.9 (2014)	-6.5
United Kingdom	30.0	19.0	-36.7	9.7	7.5	-22.7
United States	39.2	38.9	-0.8	7.9	8.3	5.1

In addition, an ongoing trend of moving away from the worldwide taxation approach, which is to tax corporates with income from all over the world, toward the territorial taxation approach, which is to tax only incomes earned domestically, prevails in the industrialized countries [14]. Studies also show that in 2000, 17 OECD members adopted the worldwide systems, but in 2010, 27 of the 34 OECD member countries deployed some forms of the territorial systems [17]. For instance, the U.K. and Japan replaced their worldwide tax systems with the territorial tax systems in 2009.

By reducing the corporate tax rate and adopting the territorial tax system, the contribution of the corporate tax revenue to each country's total tax revenue has reduced. Table 1 shows that besides the U.S., six other countries have intentionally reduced the corporate tax contribution from 2000 to 2015. France reduced about 33.3% and it is followed by Italy with 30.4%, the U.K. with 22.7%, Canada with 19.7%, Japan with 6.5% (to 2014), and Germany with 2.1%. The reason that the reduction in Germany was not as significant as in France is because that contribution of the corporate tax revenue to total tax revenue in Germany was the lowest at 4.8% among all seven countries in 2000. Clearly, there was little room for Germany to create significant reduction.

3. Trump Tax Reform and Likely Effects on MNEs

On September 27 2017, the Trump administration announced a tax reform plan with an intention to simplify the tax code and to create incentives for business investment and growth [8]. The ultimate goal is to increase jobs in the U.S. and to offer historic tax relief to families and small business owners. Since the last major tax bill reform 30 years ago under President Reagan, there were nearly 6,000 changes in the tax code and Trump's proposal is the first to tackle all concerned tax issues in one bill [18].

In the proposal, there will be significant tax relief for American families, especially middle-income families by reducing the current 7 tax brackets to 3 tax brackets of 10%, 25%, and 35%, by doubling the standard deduction, by providing additional tax relief for families with child and dependent care expenses, and others [8]. For business entities, a dramatic deduction of the business tax rate from the current 35% to 20% is proposed, and a territorial tax system will be established to replace the current worldwide tax system. As for the trillions of dollars of corporate profits held overseas, it proposes taxing these profits once in the coming years with a low repatriated tax rate [8]. In addition, there are various proposed simplifications of the tax code.

The dramatic tax reform is going to affect all taxpayers and businesses with an estimated total tax cut about \$5.8 trillion over the coming 10 years [19]. Currently, the federal deficit is about 77% of GDP and is projected to increase to 89% in 2027 [20]. With Trump's tax reform, there is no doubt that the federal deficit will increase even faster, which may hamper the progress of the tax reform. Optimistically, based on the previous tax-cut experience of the Reagan administration, the Trump administration is expecting to see an annual GDP growth in excess of 3% in the coming years which may boost business growth and tax returns [21].

Although there are still many detailed regulations to be specified soon after the probable enforcement of Trump's tax reform after January 1, 2018, possible effects on MNEs can be roughly outlined below.

First, MNEs must start evaluating their options and plan ahead before the end of 2018. If everything goes smoothly, the enforcement of Trump's tax bill will have a significant impact on the U.S. midterm election in 2018. In other words, the pursuit of favorable factors for a successful

midterm election is likely to push the enforcement of the new tax bill starting in 2018. This estimation suggests that MNEs still have sufficient time to plan things ahead. Specifically, MNEs must plan out various scenarios fitting their situations to decide on the most appropriate actions toward their past overseas profits and the current corporate inversion operations if they intend to remain as U.S. corporations.

Second, impacts of repatriating MNEs' overseas profits to the financial market must be carefully monitored. To be precise, MNEs are likely to be forced to repatriate their past overseas profits if they wish to remain as a U.S. domestic companies and enjoy the benefits of the lowered corporate tax rate and the territorial tax system. In the past, to manage deferred profits, MNEs have established financial management firms to purchase Treasury bonds and earn tax-free interests without directly linking to the parent MNEs [23]. In the meantime, since these companies still need capital to fund their domestic and international projects, MNEs often issue corporate bonds and acquire domestic debts. If MNEs' overseas profits are all forced to be repatriated, there would be a period of massive sellout of Treasury bonds and the buyback of corporate bonds. In addition, the repatriation is offered only once with a lowered tax rate. Hence, MNEs must arrange things far ahead of time so as to ensure that all qualified capital is repatriated in time with a sufficient amount of capital available to fulfill the tax liability. Since there are so many big MNE players involved in this event, the impact on the financial market, particularly the bond market, would not be trivial.

Third, MNEs must be aware of tax rules established for distinguishing taxable domestic and exempted foreign-source incomes under the territorial tax system. As discussed in the previous section, transferring from the worldwide tax system to the territorial tax system is a global trend. Hence, the contribution of corporate taxes to the total tax revenue is expected to decrease in the future. It is the responsibility of the federal government to develop suitable plans to counteract the expected negative effects to the federal budget. As for MNEs, the critical issue is to learn in detail about how the IRS will distinguish domestic and foreign incomes. For instance, if headquartered abroad, will earnings by the U.S. subsidiary be treated as a foreign income? Many similar rules designed by the IRS will affect MNEs' decisions on their domestic and international operations.

Fourth, MNEs will need to reformulate their capital budgeting plans. Under a higher corporate tax rate, the benefit of tax deduction on debt is the major reason that many companies pursue a higher debt burden in acquiring needed capitals. With a significant reduction of the tax rate from 35% to 20%, the tax deduction benefit will decrease by 42.8%. Companies will have two choices in making their capital budgeting plans. The first option is to increase the company's debt ratio so as to compensate for the reduction of the tax deduction benefit. However, increasing the debt ratio may create a negative effect on the company's credit rating while increasing a company's interest burden and lowering its earnings. The second option is to increase the weight of equity and issue more

shares. However, the company may worry about the decrease of its market price and the effect of a dilution of distributable profits to shareholders. In certain conditions, the issuance of shares may not be as successful as expected, which would affect the planned investment projects. Fortunately, as a multinational enterprise, an MNE has an option to acquire foreign debts or issue shares abroad so as to avoid difficulties faced after the tax reform. In other words, the task of capital budgeting will become more complicated than before.

Fifth, MNEs will need to put more efforts on reducing their currency exchange rate risks. In principle, the tax reform is aimed to increase domestic investments and jobs so as to push strong economic growth in the U.S., which happened 30 years ago when the Reagan administration initiated a significant tax cut and the Trump administration believes that a similar event will happen again. Accompanying the increasing inflows of capital, a strong appreciation of the U.S. dollar is expected and the export business is likely to be affected. Strategies useful to mitigate the currency exchange rate risks must be carefully evaluated and applied because an appreciated dollar may generate various negative effects on MNEs' profits and operations. There is no doubt that MNEs' financial managers will have a heavier responsibility than before to minimize the impacts of the transaction, translation, and operating exposures to the company.

4. Conclusion

Currently, tax avoidance by U.S.-based MNEs is an important financial management task due to the unique U.S. high corporate tax rate. Besides deferring overseas profits to avoid taxes, many well-known MNEs even move their headquarters to tax-haven countries. Such a development has caused trillions of dollars to be stashed abroad, while special investment firms were thereafter created to manage those overseas profits. Actually, the development in the U.S. is opposite from the trend in many industrialized countries. In the last decade, many countries have reduced their corporate tax rates and changed their taxation systems to avoid taxing MNEs' foreign earnings. Their goal is to attract MNEs to invest domestically while making handsome profits abroad.

Changing the U.S. corporate tax rate and taxation system has long been a popular issue in politics for attracting voters' interests. On September 27 2017, President Trump outlined his tax reform plan. It is obvious that the enforcement of such a tax reform will significantly reduce the government's tax revenue and is likely to cause an increase of the federal deficit. Still, the enforcement of the new tax bill is likely to start in 2018. In this report, the possible impacts of Trump's tax reform on U.S.-based MNEs are explored. Mainly, in order to help U.S.-based MNEs profit from a lowered corporate tax rate and a favorable taxation system, MNEs will need to plan ahead on accurately separating its domestic and foreign earnings to minimize its domestic taxes, and repatriating its past overseas profits once to meet the requirement of the new regulation. Also, the success of Trump's tax reform will increase the cost of debt due to a less favorable tax deduction which would make MNEs' capital budgeting

much more difficult than before. In addition, a strong appreciation of the U.S. dollar is likely to happen when trillions of overseas profits are converted to the U.S. dollar and a strong economic growth will occur as expected by the Trump administration. Therefore, MNEs will have a tough time managing foreign currency exchange risks due to a likelihood of strong fluctuation of the U.S. dollar.

Acknowledgements

Helpful comments from Mr. Jozef Janotta, Dr. Robert Gottfried Kuklik, and Ms. Theresa Jadrna are highly appreciated.

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THE ECONOMIC SITUATION, AND THE BUDGET OF THE CITIES WITH THE DISTRICT RIGHTS

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Abstract: Business cycles have been and are an integral part of the functioning of many countries in the world. The purpose of this publication is to present the impact of the business cycle on the budgetary income of cities with powiat rights.

Keywords: business cycle, economic crisis, finance municipalities

1. Introduction

Business cycles have been and are an integral part of the functioning of many countries in the world. Understanding this phenomenon is extremely important for effective economic policy. The cyclical phenomenon of both decreases and increases in economic activity has been the subject of numerous theoretical considerations as well as empirical research from the early years of the last century. As a result, the fluctuations in the economic climate affect the public finance system. The purpose of this publication is to present the impact of the business cycle on the budgetary income of cities with powiat rights.

2. Theoretical aspects of the business cycle

Economic history shows that in a market economy such aggregate volumes as national income, production, consumption, employment, and investment do not grow evenly. The rate of their growth is characterized by periodic fluctuations. Such periodic changes in the level of economic activity are referred to as the business cycle [1]. As a result, all market economies are subject to cyclical cycles and, therefore, recurrent periods of deterioration and improvement in market conditions (fluctuations in trend). It concerns both developed and developing economies. In some periods, there is a significant increase in output, accompanied by a decline in unemployment, an increase in inflation, and in other periods, economic growth is declining, the dynamics of price growth decreases, and the situation in the labor market is deteriorating [2]. Today, the business cycle is defined as a dynamic economic process. In its external form is built of two main elements. These are the turning points and the phase of the cycle. From the cognitive point of view are the starting points of the business cycle fluctuations turn points. They allow the determination of the initial and final moments of the phases, as well as the characteristics of the oscillations [3]. The turning points that occur during the business cycle are divided into two groups: upper turning points and lower turning points. The first of them marks the end of the prosperity, and the beginning of the decline phase. On the other hand, the lower turning points indicate the moment when the economic downturn is over and the economy is entering the recovery period [3]. Cyclical fluctuations (in classical terms) consist of four successive phases: flowering, slowing down, recession, and revival.

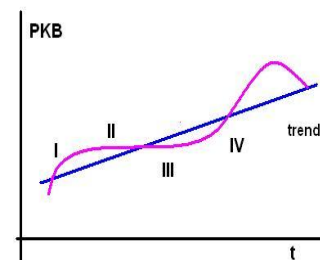


Figure 1. Business cycle phases

Source: <http://cykl-koniunkturalny.inwestowanie.org/> (access 20.01.2017)

The period of prosperity (I) is the period when GDP, consumption, investment and prices reach the highest levels and the unemployment rate is the lowest. At this stage too, the phenomenon of economic imbalances is growing. The slowdown phase (II) is a time when economic phenomena at the boom stage slow down. The slowdown is a sign of a decline in overall economic activity. The next phase, referred to as the phase of depression (III), is the point at which downward trends in output, employment, prices, wages, investment and consumption disappear, while the recovery phase (IV) is a period of gradual growth in GDP, consumption, employment, prices and investment. The market is still dominated by low interest rates, which affects the growth of investment. At the same time, inventories, revenues and profits grow [2].

At present, in the economic literature instead of the four phases of the business cycle, two phases are increasingly defined, namely the decline phase and the growth phase. The downward phase combines the phase of the crisis and the phase of stagnation. On the other hand, the growth phase combines the revival and flourishing. This is due to the fact that the course of the business cycle has changed in a certain way. The downward trend does not need to be characterized by an absolute decline in the business activity data. They may show lack of growth or slowdown. In addition, during the downswing period, companies that produce, for example, substitutes can profit, as consumers' preferences for cheaper alternatives change. Reducing the amplitude of fluctuations is a consequence of the transformation of the market economy, and above all its monopolization and state interventionism. Modification of the current business cycle due to state interference also

holds the other side. Stabilizing state influence on the course of the cycle contributes to reducing the amplitude of fluctuations, while also implies the prolongation of the downward phases while decreasing their depth. Ultimately, the stabilizing influence of the state authorities contributes to reducing the dynamics of the expansion phase. As a result, anti-cyclical effects mitigate the course of the cycle, while at the same time weakening the growth dynamics [1].

3. The state of the Polish economy in the years 2005 - 2016

In the world economy, which is characterized by a variety of economic and economic links between specific economic entities, its inherent element is the transfer of economic fluctuations on the macroeconomic as well as international scale. The economic growth of the country is identified with the increase in the real value of gross domestic product (GDP), which is assumed to be a synthetic indicator of the level of economic growth in a given country [4]. In recent years, the Polish economy has been forced to face the changes that are taking place in its environment. Macroeconomic data from the past few years indicate that the slowdown in economic growth in Poland has become a reality. The Polish economy presents the following statistics.

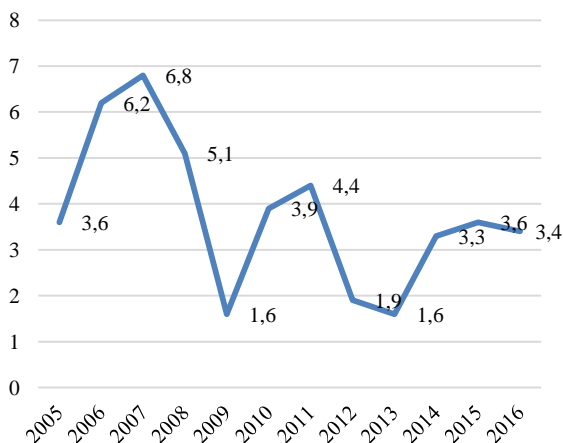


Figure 2. GDP growth in Poland in 2005 - 2016 (in%)

Source: own elaboration based on Annual macroeconomic indicators, Central Statistical Office, <http://stat.gov.pl/secretary-markets/> (access: 15.10.2017).

Based on the data presented in Chart 2, it should be noted that since 2005 Poland's GDP growth was observed, which continued until 2007. In 2008, Poland experienced the impact of the global economic crisis in the United States. The next year saw a slight GDP growth, and its dynamics relative to the previous year fell by 3.5 percentage points. This was a significant decline in GDP growth, but in Poland GDP growth was still visible with slow growth. Between 2010 and 2011, GDP growth accelerated again, although in 2012 Poland again experienced a strong economic slowdown. The dynamics of Polish GDP in the years 2014-2016 has increased, which proves the improvement of the economic situation. In the analyzed period, no textbook recession (understood as negative

economic growth for at least two quarters) was recorded in Poland. Despite this, the Polish economy underwent two periods of slowdown in economic growth.

An extremely important issue is the development of unemployment, which is an important feature of the market economy. Its level is related to the development of the economic situation on a given market. As a result, the dynamics of economic growth affects both the level of employment and the changes in the size of employment. The unemployment rate is one of the most important indicators that reflect the condition of the Polish economy. The unemployment rate in Poland is shown in Chart 3.

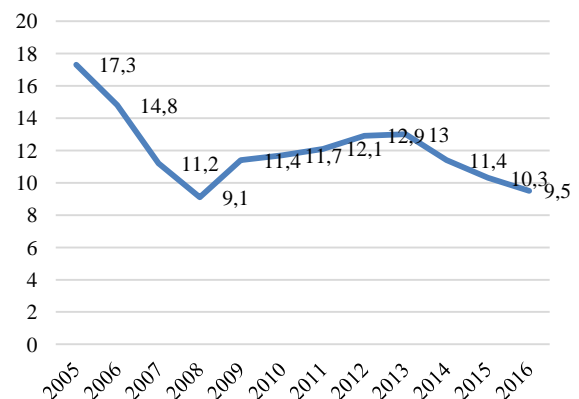


Figure 3. Unemployment rate recorded in Poland in 2005-2016 (in%)

Source: own elaboration based on the unemployment rate in the years 1990-2015, Central Statistical Office, <http://stat.gov.pl/business/employment-registration/stopa-bezrobocia-wlaczach-1990-2015,4,1.html> #, (access: 21.01.2017)

Poland recorded the highest level of unemployment in 2005, which amounted to 17.3%. In the following years, the unemployment rate dropped to 9.1% in 2008. Since 2009 there has been a steady rise in unemployment, which continued until 2013, reaching 13%. However, in 2016, unemployment in Poland amounted to 9.5%. Based on the analysis of the above data, unemployment has shown an upward tendency in the period of the weakening economic situation in 2009-2013. However, in the following years it was systematically decreasing.

4. Budget of the city with the district rights

Cities are not only responsible for the tasks of the municipality, but also for districts. Three main premises were influenced by the rise of cities under the jurisdiction of the powiat. The first is the settlement structure, which ultimately imposed a departure from the classical form of counties consisting of rural and rural communes located around a larger city. The second important premise was the extension of the task directory of 46 cities in the field of public tasks on the basis of the Regulation of the Council of Ministers of 13 July 1993 on the definition of tasks and competences in governmental and general administration, which may be transferred to certain municipalities with the status of a town. They are also used for their execution, as well as the rules and mode of transmission. The number of

tasks assigned to selected cities has grown over the years through other legal acts. Thirdly, the creation of cities with county rights was to be a form of compensation for cities which had lost the status of voivodship towns.

Table 1. Local taxes by city category with powiat status in 2005-2016 (in PLN thousand)

Specification	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Property tax	46385	48956	50860	52949	50635	60653	68257	69649	74865	77054	79428	84936
Agricultural tax	1653	1339	1574	2421	2384	1539	1664	2497	3127	2784	2614	2100
Forest tax	127	184	148	154	167	153	179	229	289	215	256	465
Tax on transport means	2653	2970	3247	3005	3389	2638	2886	2254	3286	3120	3338	3122
Tax on civil law transactions	7684	11216	15911	13784	9859	11034	11229	8384	9854	9886	9888	12624
Inheritance and donation tax	14904	17880	20758	21585	18729	17889	15271	15297	14887	14922	15385	16553
Local taxes together	52008	66306	74023	73880	72497	79000	79666	82946	88609	92450	95559	95843

Source: own elaboration based on
<https://bdl.stat.gov.pl/BDL/dane/podgrup/dimensions> [date of access 17.10.2017]

Based on the data in Table 1. it should be noted that the real estate tax is growing in the period under consideration. In 2005 it amounted to PLN 4 673 685 thousand. PLN, whereas in 2016 revenues from this title in comparison to 2005 increased almost twice. In the case of agricultural tax there are some fluctuations in the period considered. In 2006, compared to the previous year, there was a decrease in budget revenues from agricultural taxes. In subsequent years, its growth is visible. However, in 2009 and 2010 there was a recurrence of the budgetary revenue of the towns with the county taxes on agricultural land. In 2011 the proceeds from the discussed tax amounted to PLN 16 364 thousand. PLN, while in 2016 22 010 thousand. zł. The city's tax revenues from forest taxation in the years 2003 - 2015 systematically increase. Only in 2010 and 2014 was its decline compared to the previous year. Despite the fact that the budgetary revenues of the cities on the taxation of forest land in comparison to the other taxes are not a major source of income, they do allow to some extent the implementation of public tasks. Budget revenues from transport vehicles in 2005-2007 were characterized by constant and dynamic growth. In the years 2008-2011 there was a decrease in budget revenues from transport tax, which may have been related to the economic slowdown that occurred in Poland. In the following years it was noted again. On the other hand, the tax on civil law transactions increased steadily in the years 2005-2007, while in the next two years, compared to previous years, it significantly decreased, which could also be related to the weakening of the economy. In spite of the temporary increase of municipal budget revenues from the civil law tax in 2012, it was again declining. In the following years, the income from this tax was increased. Local taxes, which provide budgets for cities with powiat status, make these units a broad directory of public tasks. They belong to the category of own income. The development of the income of the towns with the powiat rights is shown in Figure 4.

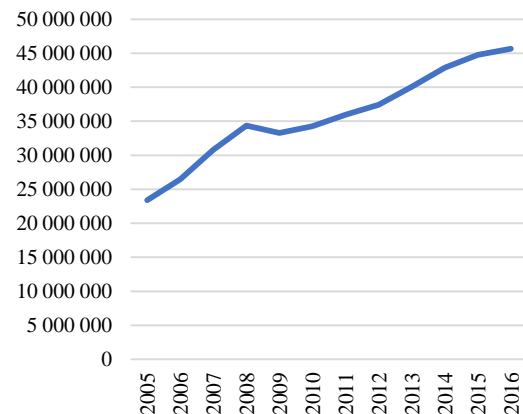


Figure 4. Own income of cities with powiat status in 2005-2016 (PLN thousand)

Source: own elaboration based on
<https://bdl.stat.gov.pl/BDL/dane/podgrup/dimensions> [date of access 17.10.2017]

The income of the city budgets on the powiat rights is characterized by an upward trend in the period under consideration, which is undoubtedly a positive aspect. Only in 2009 compared to the previous year saw a decline in own incomes, which was related to the current economic downturn in Poland. The income of the towns in the district in 2005 amounted to PLN 23 378 936 thousand. and in 2016 they increased to the level of PLN 45 641 454 thousand. zł.

5. Conclusions

To sum up, it is very important to make city authorities aware of the co-existence of their financial relationship and the dependence of allocated revenue sources on the macroeconomic situation of the state and even of the international community. The data presented in the article show that the budgetary implications for cities with powiat rights appear late, which does not necessarily have to be a consequence of the economic boom, example the change of existing regulations directly or indirectly affecting the incomes of the city budgets on the powiat.

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INSTITUTIONAL CONDITIONS OF LOCAL DEVELOPMENT IN POLAND - SELECTED ASPECTS

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Abstract: *Based on the literature of the subject, the work presents the influence of local government units on local maintenance and development. Local government with well-organized support institutions can effectively influence the creation of business activities and strengthen the competitiveness of existing companies, thus contributing to the activation of local development.*

Keywords: *local development, community, economy, local government*

1. Introduction

Local government is one of the oldest forms of self-government. According to Art. Article 163 of the Constitution of the Republic of Poland local government "performs public tasks not reserved by the Constitution or by law for the organs of other public authorities". [1] The essence of local self-government constituting a manifestation of the principle of decentralization of administration in a state is the autonomy of self-management by the local community (commune, county, voivodship). At the same time, these units of local government have legal personality, and they have the right to own property and other property rights. Local government is therefore independent of government administration. It is subject only to limited central government intervention: self-government supervision is exercised by the prime minister and voivodship, and in the area of financial affairs - regional accounting chambers. Local government operates within the limits of the state and in accordance with applicable law. [6] The constitution defines self-government as: "a community of people who are lawful and which encompass all inhabitants of a territorial unit." [1]

Clarification of the role of institutional factors in local development has significance beyond purely scientific inquiry, for it can provide the practical knowledge needed to manage local development. The impact of these factors is difficult to determine because the "attribution" of specific phenomena that contribute to local development in the category of cause and effect of selected institutional factors is not easy. "Thus, the most important stimuli of interest in current scientific concepts of local (regional) development should be distinguished from the broad spectrum of impacts." [8] It seems that such a clear institutional impulse decisive for local development is the interaction of local authorities with enterprises within network structures and the quality of social capital.

2. Civil society and local development

Open society, as an idea, has become the hypothetical community of all people who are bound by the bonds of brotherhood and universal values. It is a vision, shared by individuals and communities, interacting around. Progress

is a result of the humanization of interpersonal relationships and the universalization of concepts.

Subjectively assessed freedom of the individual, his independence, and his consciousness and will, may direct the community towards new forms of existence. The dynamics grows even more as the population grows. [6] It is understood that civil society is a network of different types of interconnections between individuals. This concept assumes human activity in many different fields, e.g. economic, social or political. Citizens are acting on the public stage as individuals or collectives, and not as tools for managing the state. Of particular importance is the existence of effective mechanisms to ensure social balance and the creation of civic and democratic relationships. By means of social equilibrium, we understand legal regulations, institutions and organizations that aim to combine the interests of different segments of society. Their lack of recognition is one of the problems of the current state reconstruction. The ineffectiveness of these mechanisms is related to dysfunctions caused by transformation processes and to the concentration of management by representatives without public participation. It is noted that in the eastern part of Europe, civil society has taken over many of its prerogatives from the governmental administration through institutions such as local governments or non-governmental organizations. third sector. [4]

Power, as a decisive factor in the general affairs, i.e. national and local, as belonging solely to the nation and the authority formed in accord with its will, the shape of the administration, consisting in the exercise of the powers vested in the will of the people, undergoing social control. Open society is not the majority government, as it protects the rights of minorities. In such society a power exercised through the administration, i.e. the powers conferred on the officials, is subject to social control. The ideal of an open society becomes a process. May cause danger. By choosing it, people may lose their sense of security as to their social status. At the top of the hierarchy, they may naturally be afraid of openness and competition. For others, it may be too difficult to develop the concept that people impose on the person, such as trying to become an active person, refusing to meet certain needs,

controlling oneself, and accepting responsibility.[4] Democracy and market economy are the basic foundations of an open society, as well as a mechanism regulating markets, especially financial ones. Rationality and moral code are considered basic basics. They are reflected in other cultures. [3] For example, Confucian ethics, based on family and relationships of interpersonal relationships. The Western form of democracy does not have to be the only form suitable for an open society. Open society should be pluralistic, but it should not be directed towards pluralism in order to lose the ability to distinguish between good and evil. It was also acknowledged that tolerance and moderation may have their extremes.

Collective decisions cannot be made solely on the basis of rational orders. Laws are needed, inter alia because without existing norms in the relationship between individuals and individuals, individuals and groups and groups and groups, discretion could lead to aggressive destruction, as is known from history. It needs institutions that recognize their imperfections and create mechanisms to correct errors according to the will of society. Global open society cannot be formed without human consent to its basic principles. Open society, in order to achieve the advantage of its favorable opinions, through self-governance.[5]

3. Local development in Poland and the activity of self-governments

Regional development is a process in which structured forms of efficient use of natural, material and human resources are essential in order to ensure the continued prosperity of the population living in the territory. In order to achieve the strategic objectives of the region, all its development factors should be correlated in the management process. This process may also be targeted at the priorities identified in the regional development strategy, which in the EU hierarchy occupies second place after the budgetary policy. Efficiently facilitating the implementation of contemporary socio-economic challenges was the theoretical development of the basis of regional development. These challenges arise "from the need to create a common territorial, organizational and institutional system in common with the European structures in the field of regional policy".[10]

Local developments are influenced by various factors that are not constantly changing, and therefore should be continually and continuously analyzed. Key factors influencing local development or limiting it include:

- external and internal factors (external influences from relationships with the external environment - national or international - internal resources, management skills, local government activity, business climate),
- macroeconomic and microeconomic factors (such as those that are not dependent on local actors and are shaped at national or international level e.g. tax rates or free trade agreements; microeconomic factors are those affected by local authorities);
- spatial factors (regional or local variations) and spatial variations (the same across the country),

- hard and soft factors (hard factors such as access to infrastructure, location and connection to external networks of energy and heating infrastructure services (energy, gas, heating, renewable energy), industry structure, size and type of ownership The soft factors are those that are difficult to measure, such as creativity and innovation.).[8]

For the local development are primarily responsible entities operating in the local community and operating on the local market. The main entities responsible for local development are local authorities (municipalities, counties and regions). It is precisely from the willingness and ability of local authorities that a municipality or other administrative unit will develop. It is known that the more developed community is more attractive to the local community as well as to tourists or external investors. By law, local governments carry out both own and contracted tasks. Own tasks include, for example, spatial and ecological order (e.g. spatial planning, environmental protection, natural disasters), social infrastructure (e.g. education, health care, social care, cultural institutions), technical infrastructure (e.g. roads, bridges, water supply, public transport), security and public order (e.g. fire protection, sanitary safety, communal guards). On the other hand, commissioned tasks concern: running a civil registry office, agricultural census, organizing parliamentary elections and other. [7]

More recently, local economic development concepts have emerged, departing from the paradigm of neo-liberal economics, and leaning towards an institutional approach that takes into account not only what is traditionally called economic factors but also institutions and attitudes, and the impact of low living standards for productivity and development. Local development in the economic sphere is based on both internal (endogenous) and external (exogenous) factors, or can be based on centrifugal premises. In the case of endogenous factors, the basis of development is local resources of basic production factors and available human and intellectual capital. On the other hand, the exogenous factors of development are the localization of new manufacturing plants belonging to external entrepreneurs. They influence changes in the structure of local production. The centric premises of economic development result from the reaction to external changes (technological and organizational) and the result is the creation of new companies or the development of existing ones. The impulse to stimulate entrepreneurial attitudes is cooperation and joint actions of existing companies. Creation of local development forces local authorities to influence the appropriate combination of endo- and exogenous factors. [2] Establishing institutions and stimulating mechanisms to support entrepreneurship allows us to create, adapt and implement new solutions that are closely related to increasing the competitiveness of companies and their success on the market. Developing a business development model is not an easy task. In every industry or region, businesses are subject to different conditions, resulting from differences in GDP levels, labor productivity, unemployment rates, and access to

infrastructure, and levels of human, social and intellectual capital.

This creates the need for an individual approach to working and emerging companies. Nevertheless, local authorities should be guided by certain general principles when creating business conditions. These include:

- development and implementation of strategic plans based on the vision of the future of enterprises,
- implementation of instruments and mechanisms influencing quality improvement,
- the need to stimulate innovation and creativity in enterprises,
- stimulating organizational learning,
- development of employees, their training, motivation and creation of a strong, coherent organizational culture,
- incorporating ecological aspects. [9]

The creation of favorable conditions by local authorities for the development of entrepreneurial and innovative activity of local companies can contribute to the overall socio-economic development of the region. The plane of permanent partnership with local governments can create regional innovation systems that create a network of cooperating manufacturing, service and public, financial, social and scientific organizations. Institutional linkages within regional innovation systems are based on the premise that strong linkages between local communities, which own business, openness to the world, and cooperation with the institutional environment will stimulate and diffuse innovation and thus increase the competitiveness of the region. [2]

4. Factors of development and competitiveness of regions

Competitiveness is seen as a key success factor in economic policy, hence competitiveness factors include:

- reducing the technological gap as measured by the increase in the number and use of patents that directly affect innovation,
- the growth of foreign direct investment, introducing new products, technologies and indirectly forcing the raising of the skills of the workforce;
- reducing disproportions in human capital including education, health and social care; improving the situation in this area raises the activity and involvement of the population in improving living conditions,
- the expansion of business environment institutions, creating an effective network of companies supporting entrepreneurship and technology transfer,
- the ability to use the Structural Funds of the European Union as a stimulus and an opportunity for all participants involved in regional development.[12]

Regional development factors can be divided into traditional and effective. Traditional development factors include natural conditions and resources, existing investment in regions, and labor resources of the region. They are the basis for extensive, effort-intensive development, anchored in the growing involvement of individual resources. Among the factors of effective regional development is the intangible infrastructure,

which defines, among other things, the quality of human capital. They create it: the level of knowledge, education, experience, qualifications, entrepreneurship, resourcefulness, the rule of law, human attitudes, traditions, sense of identity and regional identity. Other effective factors for regional development are: quality of property resources, economic structure of the region, spatial development of the region¹³. Efficiency (qualitative) factors have become increasingly important in recent years due to the possibility of gaining competitive advantage on the basis of elements difficult to copy. The above considerations concerning the ways and possibilities of economic development, by creating competitive regions, determine the quality of human capital as a feature of human capital, enabling the creation of a lasting competitive advantage in the studied region (region, country). [12]

5. Summary

Theoretical concepts, as well as empirical research, confirm that the potential resources of local governments in the form of decision power, knowledge, financial resources and regional development tools can stimulate local development. In the structure of governmental and governmental administration, separate workstations coordinating activities for the development of entrepreneurship or innovation development centers should be created, creating together with other institutions of the business environment and scientific and research units and universities cooperation networks. Their aim should be, in addition to coordinating actions, to provide administrative, legal, financial, tax, marketing, etc. Among the most important initiatives of enterprise support agencies are the creation of funds to facilitate access to credit by entrepreneurs through the provision of sureties and loan guarantees. The essence of the proposed, active attitude of local authorities, involved in creating conditions conducive to local development, cannot be top-down controlled, as this would be contrary to the idea of market-pricing mechanism of resource allocation. In this case, efforts should be made to build an understanding between all key parties, which will contribute to the bottom-up shaping of entrepreneurial attitudes. Effective help from local authorities in activating entrepreneurship can contribute to the region's economic development, and expenditure from the budgets of the inspected offices to support economic initiatives will be reimbursed in the form of local taxes paid by well-functioning local business entities.

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MIGRATION FOR THE PURPOSE OF WORK: WORKING VISA IN THE SLOVAK REPUBLIC^[1]

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Abstract: *The visa policy of the Slovak Republic is generally regarded as one of the strictest in the European Union. I have verified this information through this article while I focused on foreigners, nationals of third countries who choose to work in Slovakia as a lecturer of foreign languages. The article is aimed at obtaining a work visa within the temporary residence for the purpose of special activities namely lecturer.*

Keywords: *visa politics, third-country national, temporary stay*

1. Introduction

The Slovak Republic is a sovereign country which, within its legal status, fulfills its obligations to its own citizens, but also to the international organizations and communities which it is a member and whose rules it has committed itself to respect. The European Community is one of the international groups of the Member States which determines and establishes the rules on the free movement of persons, goods, services and capital. Therefore, before defining the visa policy of the Slovak Republic, I consider it necessary to outline the legal background and regulation that influenced its current form and rules of operation. The Slovak Republic is a Member State of the European Union, which results not only the rights but also the obligations to be fulfilled in relation to other Member States and other international partners.

1.1 The legal background and regulation

The primary legal basis governing the visa policy is the Treaty on the Functioning of the European Union, which governs visa, asylum, immigration and other policies relating to the free movement of persons. Specifically, Title IV. Art. 62 para. Article 2 (b) governs the Council's obligation to take measures covering the crossing of the external borders of the Member States which will establish „the rules on visas for intended stays of no more than three months, including (i) the list of third countries whose nationals must be in possession of visas when crossing the external borders and those whose nationals are exempt from that requirement; (ii) the procedures and conditions for issuing visas by Member States; (iii) a uniform format for visas and (iv) rules on a uniform visa.“ The above article also implies an obligation to establish conditions for third-country nationals and their entitlement to move freely within the territory of each Member State. The provisions of the Treaty on the Functioning of the European Union represent only the basic framework which has been elaborated in more detail in the framework of the secondary legal acts applicable to the regulation of the visa policy of the Slovak Republic.

One of the most important secondary acts in the area of visa policy is Regulation (EC) No. 562/2006 of the European Parliament and the Council of 15 March 2006 establishing a Community Code on the rules governing the movement of persons across borders (Schengen Borders

Code). The Schengen Borders Code establishes the basic criteria for short-stay visas and short stay, the conditions for issuing visas by consular offices and diplomatic missions, as well as continuation of the short-term and long-term stay. The legal regulation of the national long-stay visa remains as a competence of the individual Member States.

Another essential legal act is Council Regulation (EC) No. 539/2001 of 15 March 2001 listing the third countries whose nationals must be in possession of visas when crossing the external borders and those whose nationals are exempt from such requirement. The Regulation within its annex includes visa and visa-free countries and gives individual Member States the possibility to provide for exemptions from the visa requirement for certain categories of persons. It is also important to mention Council Regulation (EC) No. 1030/2002 of 13 June 2002 establishing a uniform format for residence permits for third-country nationals. It is essential that the uniform format for residence permits contains all the necessary information and meets very high technical standards, in particular with regard to the protection against counterfeiting. This will contribute to the objective of preventing the illegal immigration and illegal residence. The Regulation only specifies non-classified specifications. These specifications need to be supplemented by specifications that remain classified in order to avoid the risk of counterfeiting or falsification.

In 2009, Regulation (EC) No. 810/2009 of 13 July 2009 establishing the Community Code on Visas (Visa Code) was adopted. As provided by Art. I, the Regulation establishes the procedures and conditions for the issue of visas for transit through the territory of the Member States or planned stays within their territory, the duration of which does not exceed 90 days within any 180-day period. This Regulation applies to all third-country nationals subject to the visa requirement when crossing the external borders of the Member States under Council Regulation (EC) No. 539/2001 of 15 March 2001 listing the third countries whose nationals must be in possession of visas when crossing the external borders and those whose nationals are exempt from that requirement, whereby there can not be a breach of (i) the right to free movement enjoyed by third-country nationals who are family members of European Union citizens; and (ii) any right

enjoyed by third-country nationals and their family members who, on the basis of agreements concluded between the European Union and its Member States, and those third countries, enjoy the right to free movement equivalent to that of citizens of the European Union and their family members. Please note that a third-country national means any person who is not a citizen of the European Union within the meaning of Article 17 (1) of the Treaty on the Functioning of the European Union.

All the foregoing sources of law have influenced the current form of legislation in the Slovak Republic, legislation at European level is either implemented within individual laws or referred to by individual laws. The residence of foreigners/aliens, the procedure and the rules of this stay are regulated by Act no. 404/2011 Coll. on the residence of aliens as amended (hereinafter referred to as the „*Aliens Residence Act*“).

2. The temporary residence of a third-country national

In accordance with the Article 1 Section 1 of the Aliens Residence Act, the Aliens Residence Act regulates the competence of the Police Force in ensuring the border control of the Slovak Republic, the competence of the public authorities in the area of visas, the conditions of entry of aliens to the territory of the Slovak Republic and the conditions of their departure, the registration of persons and the control of their stay, the securing, the expulsion and the prohibition of entry, transport and transit of third-country nationals, the rights and obligations of persons responsible for the border control and for control of residence, offenses and other administrative offenses in the area of border control and residence.

Within my article, I focused on the legislation pertaining to the temporary residence of a third-country national, the conditions for granting the temporary residence and the execution of the temporary residence. A third-country national shall have the right to free movement not exceeding 90 days in any 180-days period in accordance with the above-described EU Visa Code. This means that a third-country national can move freely within the Schengen area for almost 3 months, and after 180 days has the right to another 90 days of free movement.

The temporary stay entitles a third-country national to stay, travel and re-enter the territory of the Slovak Republic for the time the temporary stay was granted to him by the police department, in accordance with the Article 20 Section 1 of the Aliens Residence Act. The temporary stay may be granted by a police department to a third country national for a maximum of two years, and only based on a specific statutory and specified purpose in accordance with Article 21 Section 1 of the Aliens Residence Act, which might be:

- the purpose of the business,
- the purpose of employment,
- the purpose of the study,
- the purpose of the specific activity,
- the purpose of research and development,
- the purpose of family reunion,
- the purpose of fulfilling the service obligations of the armed forces,

- the status of Slovaks living abroad,
- the status of a long-term resident in another Member State of the European Union.

A temporary stay is always covered only by one purpose that the applicant must state in the application. If a third-country national intends to carry out an activity other than that to which he has been granted a temporary stay, he is obliged to submit a new application for a temporary stay for a new purpose. It is important to mention that the imperfection and unnecessary complexity of the legal regulation lies in the fact that the applicant not only has to file a new application, but also all the annexes, including those included in the first application. It is true that the annexes may not be older than three months, but the obligation to file attachments to any subsequent application also applies to situations where attachments are not older than three months. This procedure is not only time consuming for the applicant, but is also expensive, since each of the annexes must be notarized and in the case of a foreign language it must provide an official translation to Slovak language although the verified and translated annex is already included in the file of the first application. The entire application process is so administrative, time-consuming and costly.

2.1 Third country national's application for a temporary stay for the purpose of specific activity - lecturing

Within my article I focused on the process of submitting a third country national's application for a temporary stay for the purpose of specific activity - lecturing. A specific activity in accordance with Article 25 Section 1 of the Aliens Residence Act shall mean:

- lecturing,
- artistic activity,
- sport activity,
- internship within a study outside the territory of the Slovak Republic,
- activities arising from programs of the Government of the Slovak Republic or from the programs of the European Union,
- fulfillment of the Slovak Republic's obligation arising from an international treaty,
- the provision of healthcare or accompanying a third-country national who is provided with health care, if necessary,
- voluntary activity or
- the activity of a journalist accredited in the Slovak Republic.

An application for a temporary stay is submitted by a third country national personally, abroad to the embassy or personally to the police department if a third country national is within the territory of the Slovak Republic legally. The application is to be made on an official form, the application must be filled in correctly and must be filed with all annexes, otherwise the representative office or the police department does not accept the application for the temporary stay. If the embassy or police department does not accept the application, the third-country national shall be provided with a written notice which documents must

be substantiated in order to receive his / her application for temporary residence. It is important to mention that the police department does not provide written information about the missing documents, although it is required by law to do so. The information is provided by the police officers only orally in Slovak, which is quite problematic for foreigners speaking mostly English to understand. Therefore, the third-country nationals are forced to seek assistance of a person speaking Slovak. Furthermore, the oral information provided by police officers often varies depending on arbitrary interpretation of the law by each individual officer, as the summary list of requested documents is not accessible either on the official site of the Ministry of Interior of the Slovak Republic or within the premises of the foreign police. Of course, it is understandable that the state authorities of the Slovak Republic and their officials speak and use the state language, but in my opinion, it is necessary to realize the effort to meet the needs of persons - third country nationals, foreigners, especially at the place which is specifically for their needs. Therefore, I believe the requirement for police officers to speak at least the basics of English is not exaggerated.

A third-country national must attach to the application for temporary stay two photographs and documents not older than 90 days confirming

- a) the purpose of the stay - if the purpose of the stay is a specific lecturing activity, the applicant is obliged to prove the purpose of the stay by confirmation provided by the school or another educational institution about the performance of the lecturing activity. In particular, the applicant is required to submit the employment contract with the future employer, language school / educational institution, whereas such a language school / educational institution must be part of the network of schools managed by the Ministry of Education, Science, Research and Sports of the Slovak Republic. Once again, this information can not be found within any legal act nor within any list of required documents; the information is only provided orally by police officers without any supporting documentation to their claims;
- b) integrity - the integrity is demonstrated by the third-country national by means of an extract from the criminal record of the country of which he / she is a citizen;
- c) the financial security of residence, which the applicant shall prove by a statement declaring the balance on the account held with the bank in the name of a third - country national whose amount must be at least 12 times the subsistence minimum which represents the amount of EUR 2.377,08 [2] alternatively the financial security can be proven by the employer's confirmation of the agreed salary;
- d) accommodation must be documented by proving that the third-country national has secured accommodations for at least six months of temporary residence. Such a document is, for example, a lease, containing all notarized signatures, and the original property list attached as a mandatory annex. Once

again, requiring the original property list can be considered as redundant, as the property list can easily be found within the property register (cadastral office) for which material publicity applies.

Before granting the temporary stay, the police department shall examine whether there are reasons to reject the application, i.e. whether the third country citizen (i) is *a persona non grata*, (ii) it is reasonable to suspect that a third-country national will threaten state security, public order or public health during the stay, (iii) a third-country national does not qualify for a temporary stay, (iv) a third-country national has entered into a purpose marriage, (v) a third-country national filed untrue or misleading information or presents false or altered documents or other person's document, (vi) the provision of the temporary stay is not in the public interest, (viii) it is obvious that the secured accommodation on the territory of the Slovak Republic does not meet the minimum requirements under special regulations [3] or (ix) the Office of Labor, Social Affairs and Family issues a certificate under paragraph 3 that contains an opt-out of vacancy, in accordance with the Article 33 Section 6 of the Aliens Residence Act. The period for decision of the police department on the application for a temporary stay for a specific purpose – lecturing shall not exceed 30 days.

3. Conclusions

The article elaborates the issue of the visa policy of the Slovak Republic in relation to the granting of a temporary residence visa for the purpose of a specific activity of a third country national - lecturing. The legislation of the Slovak Republic is cumbersome in terms of foreigners, administratively demanding and places unnecessary obstacles to the issuing of visas. As provided by the Aliens Act, a foreigner is required, for the purpose of obtaining a visa, to submit to the competent authority an official request for a defined purpose. The Aliens Residence Act determines a brief basic list of attachments, each of the annexes must not be older than 3 months and must be officially translated into the Slovak language. If the purpose of the foreigner's residence is changed, the foreigner is obliged to file a new application - not only the application but also all the annexes including those submitted as attachments of the previous application which the police department has already on file. When a foreigner does not speak Slovak language, however, he/she is obligated to acquire assistance of a person speaking Slovak language, as police officers working on accepting and handling requests for any purpose of third party nationals largely do not speak any other language than Slovak. In the article I discuss the issue of a working visa for a specific activity, but the procedure for obtaining a "classical" employment relationship, regardless of the activity, is even more complicated. An employer who wishes to employ a third-country national must, at least 30 working days before the application for a third-country national's request for residence for the purposes of employment, declare a vacant post at the employment office within the territory of the place of work. A third-country national is entitled to apply for a work permit only

after the expiration of the 30 working days, attaching to the application a signed employment contract or an employer's promise to work. The period for decision of the police department on the application for a temporary stay for work purposes shall not exceed 90 days. During this period of approximately 4 months, the Office of Labor has the right to examine the job vacancy and, taking into account the situation on the labor market and the possibility of filling the vacancy with applicants with Slovak citizenship, the employment contract with the foreigner can be canceled. It is understandable, of course, that this provision seeks to protect the citizens of the Slovak Republic but, it suppresses any employer's autonomy in the selection of its employees. Furthermore, the set periods for decision are unnecessarily long, the employer's waiting for 4 months until his employee can be strenuous on the urgency of business activity. Therefore, it should be proposed that Slovak legislators should think about the real purpose of such restrictive measures in regards to our visa policy and take action that will prove to be of real significance.

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- [1] This article is founded by the VEGA grant no. 1/0908/17 Employment of young people in times of economic change in the light of the migration crisis - new challenges for labor market policy (legal and economic view).
- [2] The Article 2 of Act no. 601/2003 Coll. on the Subsistence Minimum as amended, issued by the National Council of the Slovak Republic.
- [3] Article 62 f) of Act no. 355/2007 Coll. on the Protection, Promotion and Development of Public Health as amended in connection with Article 8 Section 1 of the Decree of the Ministry of Health of the Slovak Republic no. 259/2008 Coll. about details on the requirements for the indoor environment of buildings and on the minimum requirements for apartments of lower standard and accommodation.

PRACTICAL PROBLEMS ASSOCIATED WITH USING THE CANMERA SYSTEM

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Abstract: *The author deals with problems related to the use of the camera system in the Slovak Republic in this article. In the introduction, the author assesses the legal regulation of the use of the camera system in the Slovak Republic. Subsequently, the author discusses the legal regulation of the use of the camera system in the Slovak Republic and expresses its attitude towards the legal regulation of the use of the camera system in the Slovak Republic, underlining the possibility of adopting legislative changes. It is also concerned with the application problems associated with the current legal regulation in this area and with the practical problems associated with using the camera system.*

Keywords: *camera systems in the Slovak Republic, problems in application practice, protection of personal data*

1. Introduction

The reason for writing this article and for choosing this topic is that the use of surveillance camera systems in household, business premises, workplaces and public spaces is becoming a common part of our lives. Let me say that it will be the same in the future and the number of camera systems will continue to increase in the Slovak Republic.

An important fact, apart from the technical solution of the surveillance camera system itself, is also a legal basis resulting from legislation.

The article focuses on the legal regulation of the surveillance camera system in the Slovak Republic, the obligations of the surveillance camera system operators in the Slovak Republic, the registration of the information system at the Office for Personal Data Protection, and last but not least, the bureaucratic burdens connected with registration of the information system at the Office for Personal Data Protection in relation to the usability of the surveillance camera system in the Slovak republic.

Considering the above mentioned facts, the author pays attention to the regulatory framework for surveillance camera system in the Slovak Republic and to the efficiency of surveillance camera system while focusing on the legal regulations in the Slovak Republic. Finally, the author evaluates the results of his research and expresses suggestions for improving the legal regulations of the surveillance camera system in the Slovak Republic. Since the subject of surveillance camera systems and their use in households, business premises, workplaces and public spaces is very complex, the author focuses on surveillance camera systems in business premises and on related private (ownership of the business premises) and public space (customers in the commercial area) as well as working space (employees working in business premises). The Act no. 122/2013 Coll. on Personal Data Protection, as amended (hereinafter "the Act") includes the basic legal regulations.

2. Obligations related to the surveillance camera system installation and operation

The camera system operator's obligations related to the installation of camera systems and security cameras are as follows:

- marking of area monitored by the security camera;
- privacy protection of people monitored by the surveillance camera system;
- registration of the information system at the Office for Personal Data Protection;
- preparation of the security project when the security camera is used;
- disposal of recorded video.

Marking of area monitored by the security camera

The space, where the security camera is located, has to be visibly marked by the operator as a monitored one. The operator can use either a clear pictogram or a written notification. However, the consent of (monitored) person for personal data processing is not necessary. This approval is replaced by marks notifying that the area is monitored and the monitored person has an option to decide voluntarily whether to enter the store or not.

Privacy protection of people monitored by the surveillance camera system

The surveillance camera system can never monitor places where a person expects a certain degree of privacy. However, the ban on processing personal data in order to protect the privacy of the watching person is not always complete. An example of such exception is the ban on monitoring the workplace (except toilets, changing rooms, etc.) where the employer has several obligations.

In the case of monitoring the store, which is accessible to the public and when at the same time we talk about monitoring the employee's workplace, the operator is obliged to discuss this with the employees or their representatives and to inform them (representatives and employees) about the scope of the inspection, about the way of its execution and its duration.

Without being informed in advance, the employer may not monitor the workplace by surveillance camera. This obligation arises from the Section 13 paragraph 4 of the Act no. 311/2001 Coll. - Labour Code as amended (hereinafter as the "Labour Code")¹.

Monitoring of employees has to be consistent with the nature of their work performance.

Since neither the way of informing the employees or employees' representatives nor the way of notification for the employer's legal position protection, are regulated by the law, in such situations, it is recommended to draw up a written statement that will be signed by the employees monitored by the surveillance camera system. If an employee refuses to sign such a statement and does not agree with the monitoring of business premises, the law provides an exemption anchored in the Section 10 paragraph 3 of the Act on Personal Data Protection, i.e. the business premises can be monitored without the employee explicit consent.

Registration of the information system at the Office for Personal Data Protection

Under the Act on Personal Data Protection, the security camera (or surveillance camera system) is considered to be part of the so-called information system.

The Act on Personal Data Protection recognizes three types of processing and protecting of personal data:

- registration;
- notification;
- specific registration.

In our case, according to Section 15, paragraph 7 of the Act on the Personal Data Protection, the monitoring of business premises falls under the monitoring of areas accessible to the public².

In case of public space monitoring, no specific registration is required. In this case, keeping the records by the operator is sufficient. It is necessary to process the registration sheet, which has to always be present at every store in case the inspection is carried out.

In our case, the Office for Personal Data Protection does not issue registration or any other confirmation. The above mentioned registration sheet serves as an evidence of establishing the surveillance camera system.

Preparation of the security project when the security camera is used

The obligation to prepare a security project is governed by the law only in the cases where the security camera is connected to a computer with Internet access and if it is possible to monitor real time video from the commercial area via Internet.

For this reason, in such case, it is necessary to develop a security project, which is rather difficult task.

The security project has to be developed in accordance with the Decree no. 164/2013 Coll. on an extent of a safety measures documentation (hereinafter referred to as the "Decree"), issued by the Office for the Personal Data Protection of the Slovak Republic. The basic requirements are mentioned below³.

Disposal of recorded video

If the data recorded by the security camera is stored, the Act on Personal Data Protection also imposes on the surveillance camera system operator the obligation to dispose recorded data within 15 days of the date of its creation. When the recorded data is stored for longer time than mentioned above, it is considered to be a violation of a law and such action may be sanctioned by the Office for the Personal Data Protection.

By the Law, it is a general obligation to discard the recordings within 15 days of the date of its creation.

However, if for example a crime has been committed, it is necessary to deliver this video recording to the police, and the operator can keep video recordings as an evidence of the theft. Video recordings can be kept archived for the purpose of criminal procedure in the future.

Similarly, if there is a violation of the work discipline by employees, we can keep video recordings for future termination of the employment relationship.

In other cases, it is unreasonable to archive all video recordings for more than 15 days, otherwise, such acting could be considered as a violation of the Act on Personal Data Protection.

Use of data recorded by a security camera

Video recordings made by security camera may only be used in cases where the people concerned expresses their explicit consent (for example, for the purpose of presentation in a competition) or if it is a matter of law.

Existing recordings can also be used for the purpose of offences or criminal procedures (e.g. filing a criminal complaint; however, such recordings cannot be used in order to publish a thief photo on social networks for the purpose of faster identification).

Penalties for violating the Act on Personal Data Protection

In the case of violating any of the above mentioned obligations, the operator can be penalized by the Office for Personal Data Protection. The lowest fine is 300 EUR (for example, if the operator fails to inform the Office about the information system or does not keep an internal register of the information system) and it can reach as much as 200,000 EUR (such a fine may be imposed by the Office in the case of failure to prepare a security project).

3. Practical issues connected with setting up and operating the surveillance camera system

In case of some business premises belonging to the one operator, each business premise has to have its own timetable, camera system record as well as security project. This is required when each business premise is equipped with a separate camera system and there is be no common camera system for all business premises belonging to the operator.

The camera recordings serve as supporting evidence, for example in case of the theft. This evidence may be provided to the police. Consequently, police have to investigate the case and to decide, whether the theft has been committed or not.

When considering the use of the camera recordings in relation to the employees, the camera recordings can also be used in relation to the employees, however in this case, the information system has to be registered for two purposes, i.e. for the purpose of:

1. property protection and
2. monitoring of performance of work obligations.

If the registered information system is used only to protect property, the camera recordings shall not be used in relation to the employees.

However, it is important to state that not all violations of employment obligations can be clearly proven only by camera recordings. For example - drinking alcoholic beverages in the workplace - in this case, it is not sufficient to watch on recorded video as an employee was drinking alcohol from the bottle. The employee can say that he has only water in the bottle originally used for alcohol - in such case, some additional evidence is necessary, i.e. either breath or blood alcohol test. Next example - stealing something from a workplace by employee - in this case, it is also not enough to watch on recorded video the situation as the employee was stealing something - in this case, the theft has to be found guilty by police or the court. Consequently, the employer can immediately dismiss the employee. This means that video recordings serve only as supporting evidence. However, on the contrary, if an employee is obliged to pick up new goods every night and based on the camera recording it is clear that the employee did not meet his/her duties; the security camera recordings can serve as sufficient evidence to prove this fact.

4. Conclusion

The examination of this article was based on the regulation of the camera system in the Slovak Republic, the duty of the camera system operator in the Slovak Republic, the registration of the information system by the Office for Personal Data Protection and last but not least the bureaucratic burden of registering the information system before the Office for Personal Data Protection in relation to the usability of the camera system In Slovak republic.

The author was concerned with the legal regulation of the camera system in the Slovak Republic, the utility and efficiency of the camera system, focusing on the legal regulation in the Slovak Republic.

The most important conclusion is that the regulation of the camera system in the Slovak Republic, the duty of the camera system operator in the Slovak Republic, the registration of the information system by the Office for Personal Data Protection in relation to the usability of the camera system is disproportionately burdensome.

In today's technology, home systems, commercial premises, workplaces, and public spaces are becoming a common part of our lives and the cost of setting them up is already low. On the other hand, each camera system operator waits for a bureaucratic burden with camera system registration and camera system related duties.

The bureaucratic burden and duty of the camera system operator discourages camera system operators from the very introduction of the camera system as well as many camera system operators discourages registration from the

Office for Personal Data Protection, which is both an illegal state and an unwanted condition.

In view of the above, I am convinced that controls and sanctions by the Personal Data Protection Office will not solve the situation, so a more appropriate solution is to consider reducing the bureaucratic burden for camera system operators in the Slovak Republic.

Citation

[1] According to section 13, paragraph 4 of the Labour Code: "An employer shall not, except for grave reasons relating to the specific character of the employer's activities, intrude upon the privacy of an employee in the workplace and common areas of the employer by monitoring him/her, keeping records of telephone calls made using the employers' equipment and checking e-mail sent from a work e-mail address and delivered to such an address without giving notice in advance. If an employer implements a control mechanism, the employer shall consult with employees' representatives on the extent of control, its method of implementation and its duration and shall inform employees of the extent of control, its method of implementation and its duration."

[2] According to section 15, paragraph 6 of the Act on Personal Data Protection: "Premises accessible to the public shall be monitored only for the purpose of protecting public order and safety, detecting crime, disrupting State security, protecting property or health. This monitoring is only allowed when the area is clearly marked as being monitored. Whether the video or sound is recorded and stored or not, the operator is obliged to clearly mark the area being monitored."

[3] According to section 19, paragraph. 2 of the Act, the security project developed for the information system (hereinafter referred to as „security project“) contains:

- (a) the name of the information system to which the project relates,
- (b) the security intention,
- (c) an analysis of the information system security,
- (d) the conclusion on paragraphs (b) and (c).

The security intent defines basic safety objectives that need to be achieved in order to protect the personal data from security threats. Security intent contains:

- (a) the essential safety objectives and minimum safety measures,
- (b) the specification of technical, organizational and personal measures to ensure the protection of personal data centralized within the information system and the way the data is used,
- (c) defining the environment of the information system and its relation to the possible disruption of the information system security,
- (d) setting of the boundaries defining the group of residual risks; the residual risk means a security risk that remains wholly or partly uncovered by security measures, since its rate is acceptable to the operator or can not be eliminated by appropriate and effective security measures.

An analysis of the information system security is a detailed analysis of conditions of the information systems security.

The analysis defines the extent of system resilience and vulnerability. In particular, the safety analysis includes a qualitative risk analysis consisting of:

- (a) identifying the risks based on the identification of assets and their owners, identifying the threats to these assets, identifying the vulnerability of the abusive threats and identifying the impacts on assets as a result of the loss of trust, integrity and accessibility,
- (b) analyzing and assessing the risks based on the determination of impacts that may result from the failure of safety,
- (c) determining the probability of safety failure occurrence and estimating the level of risks that determine whether the risk is acceptable or requires the adoption of further measures while using pre-determined criteria for risk acceptance and identified acceptable risk levels,
- (d) identifying and evaluating the risk minimization options, for example by applying appropriate safeguards, avoiding risks or transferring related risks to third parties,
- (e) selecting the risk management objectives and measures and defining the list of uncovered risk while using technical standards and identifying other methods and means of personal data protection.

The conclusions resulting from the safety intention and the analysis of the safety information system under the specific conditions of the information system operated include:

- (a) the description of security measures and manner of their application under specific conditions,
- (b) the scope of authorizations, description of permitted activities and the way of identification and authentication of the individual beneficiaries; if the automated means of personal data processing allows, the operator ensures to registration of each authorized person entry into the information system for the purpose of re-identification of person, location and time,
- (c) the way, form and frequency of control activities aimed at compliance with security measures,
- (d) the procedures for accidents, disturbances and other emergencies, including preventive measures to reduce the risk of emergencies and the possibility of effective recovery from an accident, disorder or other emergency.

THE ANALYSIS OF RESEARCH AND DEVELOPMENT INDICATORS IN SELECTED EUROPEAN UNION COUNTRIES

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Abstract: *This article deals with the area of research and development. Through selected indicators belonging to this area, we analysed the current level of development of this area in selected countries. We compare actual situation in selected countries with the average of European Union and with the recommendation of strategy document Europe 2020 obligatory for all EU countries.*

Keywords: *research and development, patent applications, R & D expenditure*

1. Introduction

The creation of knowledge-based society and knowledge-based economy is a priority for social and economic development in many countries, particularly in the countries of the European Union [5]. Knowledge-based economy has become a dominant topic of economic debates in Europe at the beginning of this decade. The first significant milestone was March 2000, when at the Lisbon European Council's historic summit, there were frequently cited words about the need to turn the European Union into "the most dynamic and competitive knowledge-based economy in the world capable of delivering sustainable economic growth with more and better jobs" [3].

This extremely ambitious programme, labelled as the Lisbon Strategy [1], was designed to transform the European economy so that it would become the world's best economy from the economy of catching up to the best [3].

Melnikas [5] highlights the need for the creation and further development of cognition and knowledge-based society, with innovative developments on the one hand creating the conditions for accelerating scientific and technological progress, productivity and efficiency gains in all major sectors of the current economy. On the other hand, it creates the prerequisites for realistic solutions to the current economic, social, environmental and technological problems that affect the most important areas of life. Innovative developments are considered to be the most important factor in the real economic growth [4] and competitiveness of national economies as well as the economies of the European Union in general in the current context of globalization and the intensification of international competition.

In 2010, the Europe 2020 Strategy was adopted, aiming to achieve growth in the EU based on the principles of knowledge-based economy by 2020. The strategy has three main priorities: Smart Growth, Sustainable Growth and Inclusive Growth. There are seven main initiatives under

the priorities [6]. In the context of the development of countries and regions based on knowledge and innovation, intelligent growth is the most important priority, driven by knowledge and innovation. Intelligent growth means that the EU will improve its results in the fields of education, research and innovation, and digital society [2].

2. Material and methodology

The aim of this article is to define the development of the countries according to research and development (R & D) indicators. We have chosen these indicators for our analysis:

- research and development expenditure per inhabitant,
- research and development expenditure as a % of GDP,
- patent applications per million of active population,
- number of patent applications.

We have compared the five years period, from 2011 to 2015 according to data from Eurostat. According to comparison with EU strategy called "Europe 2020", we have selected only countries belonging to European Union for comparison. Then we have compared obtained values with EU 28 average. These selected countries are:

- Belgium,
- Germany,
- Czech Republic,
- Slovakia,
- Italy,
- Spain.

3. Discussion and results

Firstly, we have analysed total research and development expenditures. For better comparison of analysed countries, we have compared the values calculated per capita.

Table 1 R & D expenditure per capita (in Eur)

	2011	2012	2013	2014	2015
EU (28 countries)	516,7	536,3	543,4	564,4	587,7

Belgium	742,8	825	855,2	881,3	894,7
Czech Republic	243,4	273,9	285	294	308,4
Germany	942	984,8	990,1	1 045,6	1 073,8
Spain	303,9	286	278,5	275,6	283,6
Italy	333,7	345,2	351,6	366,7	360,1
Slovakia	86,9	108,3	112,9	123,6	171

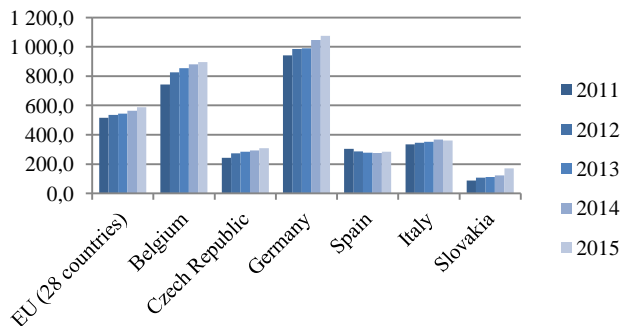


Figure 1: R & D expenditure per capita

The biggest amount of R & D expenditure per capita gained Germany, almost over € 1 000. No other country has crossed this level. The country with the lowest amount of R & D expenditure per inhabitant was Slovakia with the value of € 171 per capita in last analysed year. In all analysed countries, except Italy and Spain, the values of this indicator have got rising tendency.

Table 2 R & D expenditure as % of GDP

	2011	2012	2013	2014	2015
EU (28 countries)	1,97	2,01	2,03	2,04	2,03
Belgium	2,16	2,36	2,44	2,46	2,45
Czech Republic	1,56	1,78	1,9	1,97	1,95
Germany	2,8	2,87	2,82	2,89	2,87
Spain	1,33	1,29	1,27	1,24	1,22
Italy	1,21	1,27	1,31	1,38	1,33
Slovakia	0,66	0,8	0,82	0,88	1,18

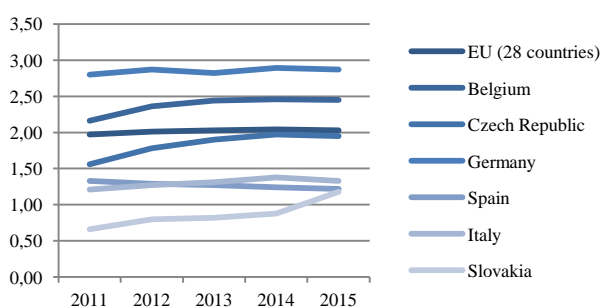


Figure 2: R & D expenditure as % of GDP

Another way of explanation of this indicator, is to compare the value of R & D expenditure to GDP. In this method, the biggest values obtained Germany and Belgium, too. But the difference is in the spread of values. In the Table 1, there were biggest differences among analysed countries. Here, when we calculate it as % of GDP, the differences are smaller.

All analysed countries belong to European Union and, of course, have the same aims according to strategy Europe 2020. This strategy set the priority, to gain the value of R & D expenditure in the amount of 3 % of GDP by the year 2020. In the year 2015, that was the last year we have analysed yet, the amount of 3 % of GDP was nearly gained by Germany. Belgium and the average of 28 EU countries obtained the values over 2 % of GDP. Other countries obtained the values from 1,18 to 1,95 % of GDP. Only in Spain there were falling values of this indicator.

Table 3 Patent application per million of active population

	2011	2012	2013	2014
EU (28 countries)	240,01	235,49	234,83	234,02
Belgium	312,3	307,94	310,52	310,7
Czech Republic	42,66	44,13	47,22	50,95
Germany	557,55	530,35	513,68	494,62
Spain	63,17	64,74	65,24	65,93
Italy	179,02	171,58	170,29	165,97
Slovakia	20,47	16,45	18,32	18,68

In the case of patent application, the biggest patent application per million of active population were in Germany, Belgium and Italy. At least patent application were in Slovakia, Czech Republic and Spain. The amount of this indicator changed every year and we cannot expect the rising tendency, because this indicator depends on many other circumstances, that we cannot predict and affect.

Table 4 Number of patent application

	2011	2012	2013	2014
EU (28 countries)	57 445,66	56 771,67	56 757,14	56 752,99
Belgium	1 516,51	1 506,64	1 536,14	1 543,17
Czech Republic	222,84	231,97	250,58	269,91
Germany	22 963,17	21 930,26	21 427,14	20 754,91
Spain	1 480,28	1 517,85	1 512,86	1 513,42
Italy	4 414,55	4 333,62	4 301,28	4 234,77
Slovakia	54,83	44,53	49,75	50,34

In the last table, we can see the number of patent applications in selected countries. We can see, that countries with the smallest number of patent applications are Slovakia and Czech Republic. Germany, with more than 20 000 of patents per year, produces over the 35 % of all patents from European Union.

4. Conclusions

Strategy Europe 2020 is obligatory for countries belonging to European Union. This strategy has set for the area of research and development the amount of 3 % for R & D expenditure as a % of GDP by the year 2020. In the year 2015, about 5 years to completion of this goal, only 1 country, Germany gained the values of this indicator near to settled aim. In the case of Belgium, we can predict, that according to their current performance in this area, this country will gain this aim too. The biggest problems with the area of research and development were in Slovakia, Czech Republic and Spain.

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ANALYSIS OF PRODUCT LIFE CYCLE AS A STRATEGIC CONTROLLING TOOL IN A COMMERCIAL BUSINESS

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Abstract: The goal of this article is to present the theory of product life cycle, show its individual stages and general characteristics. Also, a practical use of analyzed product life cycle on the example of a commercial business in construction is presented. Three bestselling products of this business are analyzed and their respective cycle stages are determined. Indicating a product life phase allows for more effective decisions to be taken by the management. From the strategical viewpoint, a business may achieve a long-term stability if it maintains multiple products at different life cycle phases. Conducting an effective product policy which is aimed at making decisions to maintain, improve and withdraw products from the market is possible by becoming aware of the product life cycle analysis.

Keywords: strategic controlling, product life cycle, commercial business

1. Introduction

Economy globalization, higher competition in the markets and current changes in the environment cause that to exist and maintain a business becomes a great challenge [1]. In order to face these adversities, enterprises need to use even more diversified management tools to improve their efficiency and effectiveness [2]. This is related to the need to constantly develop new approaches and methods to facilitate both operational and strategic decisions. An important factor affecting these decisions taken by management staff, including decisions on market competition strategy, is the stage of market life cycle for products sold by a business [3]. Three bestselling products are analyzed with determination of their respective cycle stages.

2. Theoretical basis of product life cycle theory

Product life cycle theory assumes that products have a limited life cycle in the market. Sale of products goes through various phases that pose different issues, offer various possibilities and challenges [4]. At each life cycle phase, profits drop or rise and products require different marketing strategies. Loss of demand for a product may result from a change of trends, customer customs, fashion and development of technology or new substitute products that better satisfy customer requirements.

Product life cycle can have four phases:

- introduction – a period of slow sales increase where there are no profits due to investment used for marketing;
- growth – a period in which a product is accepted, its sale increases and profits are higher;
- maturity – profits drop or stabilize which is related to higher competition, and sales rate is lower due to the fact that a product is accepted by majority of potential customers;
- decline – profits are lesser and sales is low [5].

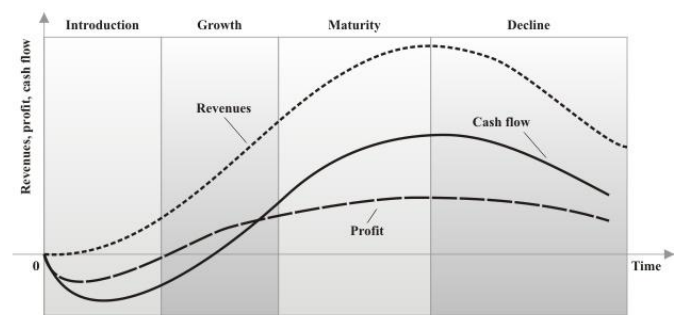


Figure 1: Product life cycle [6]

Each phase has different sales, profits and cash flow as shown in Figure 1 with different business operations. Table 1 shows such factors as market volume, costs and other for each product life cycle.

Table 1: Product life phase characteristics [7]

Phase / Factors	Introduction	Growth	Maturity	Decline
Market volume	Low	Fast	Stabilization	Permanent drop tendency
Client loyalty	None	Increasing	Loyalty	High loyalty
Market saturation level	Low	Low	High	High
Number of competitors	Usually one business	Maximum amount	High amount	Minimum amount
Costs	High	High	Decreasing	Decreasing

The situation in the market operated by a business undergoes constant changes. The varying tastes and preferences of costumers and the competitors force a constant adaptation to new conditions also in respect of management of product portfolio. During the whole product life cycle, the sales profit rate varies which affects the financial liquidity. The strategy of a business varies in time and is dependent on, among others, the phase of

product life cycle. It is therefore important to take specific steps within each phase.

During introduction phase, customers have not known the product yet and need some time to accept it. The strategies used are intended to:

- stress the benefits of a product and expose its quality;
- direct a product to innovator buyers;
- promote to create product awareness;
- create sale channels and extend them with new market segments;
- conduct constant tests of a product, its development and improvement [8].

During the introduction phase of a new product, usually strategies based on price-promotion variables are used. The fast cream-off strategy is based on a high price of a new product and intensive promotion. High price determines high profits and intensive promotion is to improve market penetration. Slow cream-off strategy consists in marketing a high price product at low expenditure spent on promotion. This strategy allows to achieve high profits by high selling price and low marketing costs. Fast penetration strategy consists in marketing a low price product and high promotion costs. It ensures the greatest share in the market. Slow penetration strategy is related to marketing of a low price product and low promotion expenditure. Low price is encouraging for customers and low promotion costs allow for higher profits [9].

During sales increase following the initial higher growth rate, it gets reduced. It is important to note this time and develop a new strategy aimed at extending this cycle phase since it generates the highest sales and profits. A good efficiency is provided by:

- development and stimulation of primary market;
- stimulating the selective demand connected to maintaining loyal customers;
- development of distribution channels;
- price reduction to reach new customers;
- promotion creating preferences against a brand or a product;
- higher product quality and adding new values;
- innovation, extension of product lines and introducing new models [10].

During the product maturity phase, customers are well aware of a product which encourages businesses to take steps aimed at extending this phase. The most effective strategic operations here are modification of the product, of the market and of the mix marketing elements.

Product modification strategy consists in raising customer interest in the product by improving its quality or introducing new features such as higher comfort of use or improved safety. Another strategy can be a change of style, or change of packaging, color or shape. Market modification strategy is used to increase the number of people using the product or improve the product use rate by customers. Mix marketing change strategy is connected to a change of one or several marketing elements, such as price change by discounts, rebates, crediting, price diversifying, distribution via new channels, increasing area of sale, display and promotion via changing mass media,

frequency and time of broadcast and training or broadening of specialization.

At the product sales drop phase, strategic decisions should be taken regarding:

- gradual or fast withdrawal of a product;
- product improvement;
- seeking new markets [11].

The product life concept, despite certain simplifications, provides particularly now with shorter product life cycles, the information needed to assess the business product portfolio and choose marketing and strategic activities. This concept may also be used to analyze and estimate the risk of entering and withdrawing from the market [12].

3. Analysis of product life cycle in a commercial business

The business in which studies were conducted is a part of the international group building its position in the Polish market. It offers a wide range of specialist, technologically advanced products that address the customer needs from construction market.

One of the important factors affecting business decisions is the life cycle phase of the products it sells. The analysis of three bestselling products: adhesive A, B and C was conducted at the business in question. Its goal was to check the life cycle phase of every product and possibly modify the business reactions related to planning. Figure 2 shows the product life cycle for adhesive B, Figure 3 and 4 shows adhesive A and Figure 5 presents adhesive C. Table 2 contains data regarding designated logistic function characteristics and coefficients that determine fitting of theoretical values to the empirical values for adhesive B, and Table 3 shows the data regarding adhesive A, and Table 5 shows adhesive C. Additionally, Table 4 presents the characteristics and coefficients of the logarithmic function of adhesive A.

Table 2: Logistic function parameters for adhesive B

Parameter	Formula	Result
Logistic function	$y = \frac{k}{1 + be^{-at}}$	$y = \frac{139,191}{1 + 139,191 \cdot e^{-0,039571 \cdot 79,99719}}$
Saturation level – horizontal asymptote (k)	$k = \frac{S_1 - 2S_2 + S_3}{S_1S_3 - S_2^2} \cdot h$	139,191
Function parameter (a)	$a = \frac{1}{h} \ln \frac{S_1 - S_2}{S_2 - S_3}$	0,039571
Function parameter (b)	$b = k(1 - e^{-a})e^{ap} - \frac{(S_1 - S_2)^3}{(S_1 - 2S_2 + S_3)^2}$	23,70163
Inflection point (p)	$p = \frac{1}{2}k$	69,596
Time variable (t)	$t = \frac{1}{a} \ln b$	79,99719
Convergence (compliance) coefficient	$\beta^2 = \frac{\sum(y - \hat{y})^2}{\sum(y - \bar{y})^2} \rightarrow 0$	0,53
Determination (fit) coefficient	$R^2 = 1 - \beta^2 \rightarrow 1$	0,47
Standard estimate error	$s = \sqrt{\frac{\sum(y - \hat{y})^2}{n - k}}$	1,083

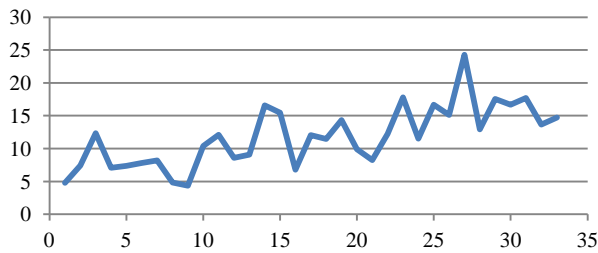


Figure 2: Product life cycle course for adhesive B

The analysis conducted implies that a fit of the logistic function to the data on sales of adhesive B is low. The fit rate explains the analyzed effect in 47% and fails to explain in 53%. The actual values deviate from theoretical values by an average of 1,083 pieces. K parameter that informs on sales saturation is about 139,000 pieces while the inflection point is about 70,000 pieces. This point will be probably achieved in the 80th period of sale of adhesive B. At that time, the fast sale increase rate will end and the curve will start to go towards the saturation level. It was observed that adhesive B has not reached the inflection point in which the second phase of increase stage occurs, that is slowing the sales rate.

Table 3: Logistic function parameters for adhesive A

Parameter	Formula	Result
Logistic function	$y = \frac{k}{1 + be^{-at}}$	$y = \frac{17,975}{1 + 0,002119 * e^{-0,15706 * 39,20155}}$
Saturation level – horizontal asymptote (k)	$k = \frac{S_1 - 2S_2 + S_3}{S_1S_2 - S_2^2} * h$	17,975
Function parameter (a)	$a = \frac{1}{h} \ln \frac{S_1 - S_2}{S_2 - S_1}$	-0,15706
Function parameter (b)	$b = k(1 - e^{-ah})e^{ap} \frac{(S_1 - S_2)^2}{(S_1 - 2S_2 + S_3)^2}$	0,002119
Inflection point (p)	$p = \frac{1}{2}k$	8,987552
Time variable (t)	$t = \frac{1}{a} \ln b$	39,20155
Convergence (compliance) coefficient	$\beta^2 = \frac{\sum(y - \hat{y})^2}{\sum(\hat{y} - \bar{y})^2} \rightarrow 0$	0,766
Determination (fit) coefficient	$R^2 = 1 - \beta^2 \rightarrow 1$	0,234
Standard estimate error	$s = \sqrt{\frac{\sum(y - \hat{y})^2}{n - k}}$	4,912

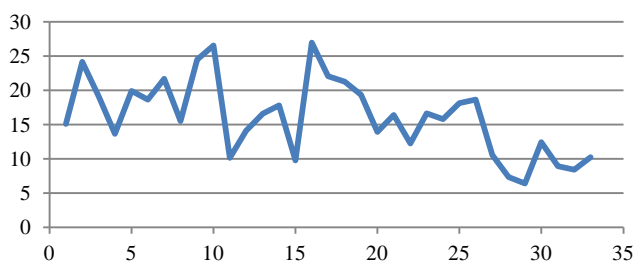


Figure 3: Product life cycle course for adhesive A

The analysis conducted implies that a fit of the logistic function to the data on sales of adhesive A is very low. The fit rate explains the analyzed effect in more than 23% and fails to explain it in about 77%. The actual values

deviate from theoretical values by an average of 4,912 pieces. K parameter that informs on sales saturation is about 18,000 pieces while the inflection point is about 9,000 pieces. This point will be probably achieved in the 40th quarter of sale of adhesive A. At that time, the fast sale increase rate ended and the curve started to approach the saturation level. It was observed that adhesive B has already reached the inflection point and even exceeded the saturation level multiple times. Therefore, it can be said that adhesive A is in increasing phase as implied from Gompertz curve analysis and approaches the maturity phase according to the saturation level determined based on the logistic curve.

Table 4: Logarithmic function parameters for adhesive A

Parameter	Formula	Result
Gompertz curve and its transformation into logarithmic function	$y = ka^{b^t}$ $\log y = \log k + \log a * b^t$	$\log y = 2,792 - 1,26397 * 0,91243^t$
Saturation level – horizontal asymptote (log k)	$\log k = \frac{1}{h} \left\{ S_1 - \left[\left(\frac{b^h - 1}{b - 1} \right) \log a \right] \right\}$	2,792387 619,993
Function parameter (log a)	$\log a = (S_2 - S_1) \frac{b - 1}{(b^h - 1)^2}$	-1,26397
Function parameter (b)	$b^h = \frac{S_3 - S_2}{S_2 - S_1}$	0,91243
Convergence (compliance) coefficient	$\beta^2 = \frac{\sum(y - \hat{y})^2}{\sum(\hat{y} - \bar{y})^2} \rightarrow 0$	0,0588
Determination (fit) coefficient	$R^2 = 1 - \beta^2 \rightarrow 1$	0,9412
Standard estimate error	$s = \sqrt{\frac{\sum(y - \hat{y})^2}{n - k}}$	0,091

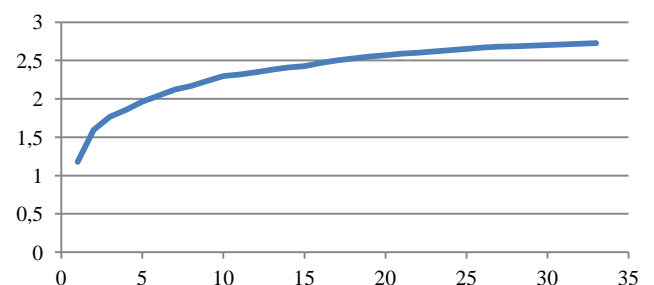


Figure 4: Product life cycle course for adhesive A

The analysis conducted implies that the fit of the logarithmic function to empirical data is very high. The fit rate explains the analyzed effect in almost 100%. The actual values deviate from theoretical values by an average of 91 pieces. Determination of the logarithmic trend was to visualize the product live curve for adhesive A. The factor $\log a = -1,26397$ satisfies the condition $\log a < 0$ and $|\log a| > 1$, which confirms that the analyzed product is in the increase phase.

Table 5: Logistic function parameters for adhesive C

Parameter	Formula	Result
Logistic function	$y = \frac{k}{1 + be^{-at}}$	$y = \frac{5,012}{1 + 2,536605 * e^{-0,063318 * t + 14,70092}}$
Saturation level – horizontal asymptote (k)	$k = \frac{S_1 - 2S_2 + S_3}{S_1 S_2 - S_2^2} * h$	5,012
Function parameter (a)	$a = \frac{1}{h} * \frac{S_1 - S_2}{S_2 - S_3}$	0,063318
Function parameter (b)	$b = k(1 - e^{-a})e^{ap} * \frac{(S_1 - S_2)^2}{(S_1 - 2S_2 + S_3)^2}$	2,536605
Inflection point (p)	$p = \frac{1}{2}k$	2,506
Time variable (t)	$t = \frac{1}{a} \ln b$	14,70092
Convergence (compliance) coefficient	$\beta^2 = \frac{\sum(y - \hat{y})^2}{\sum(y - \bar{y})^2} \rightarrow 0$	0,7609
Determination (fit) coefficient	$R^2 = 1 - \beta^2 \rightarrow 1$	0,2391
Standard estimate error	$s = \sqrt{\frac{\sum(y - \hat{y})^2}{n - k}}$	1,098

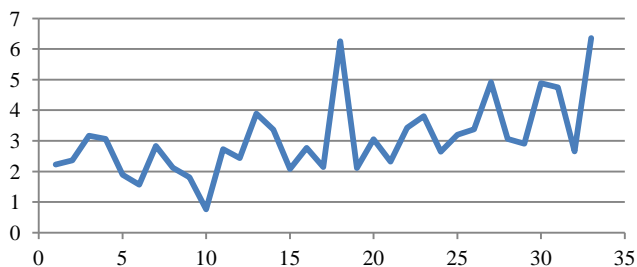


Figure 5: Product life cycle course for adhesive C

The analysis conducted implies that the fit of the logistic function to the data on sale of adhesive C is very poor. The fit rate explains the analyzed effect only in 24% and fails to explain it in 76%. The actual values deviate from theoretical values by an average of 2,500 pieces. This point will be probably achieved in the 14th quarter of sales of adhesive C. At that time, the fast sale increase rate ended and development of the product changed from the progressive to degressive. It was observed that the sale exceeded the determined saturation point two times but these were sporadic increases followed by reaching the previous levels. Therefore, adhesive C is in the increase phase and will approach the market saturation point.

4. Conclusions

The analysis conducted that each analyzed product is in increase phase but at different stage. They approach the maturity phase to a varying degree, which translates into financial results achieved by a business. Adhesive B is in the increase phase whose goal is to gain the greatest shares in the market which will allow to improve the financial results and creates an opportunity to return the expenditure for product development. Adhesive C is still in the sale increase phase but approaches the market maturity phase. Adhesive A, on the other hand, is in the increase phase but is almost in the maturity phase as well. High product awareness encourages customers to take steps to extend this phase. It can be extended by seeking new customers or increasing the demand for a product. The natural

consequence of marketing of new products and withdrawing older products in the downturn phase will allow a business to sustain and develop. Once planned marketing strategy should evolve according to market changes and product life cycle changes.

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TRADITIONAL OR MODERN? PREFERENCES OF YOUNG CONSUMERS IN THE FOOD MARKET- LITERATURE AND RESEARCHES REVIEW

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Abstract: *The aim of this article is to identify young consumers' preferences on food market associated with their attitudes towards traditional or modern consumption pattern, based on secondary sources of information published over the period of 2001-2016. Article shows theoretical aspects of traditional and modern food behaviour, determinants of young people food preferences and researches conducted by chosen authors associated with young people preferences. A literature review methodology has been used and in particular the latest publications in peer-reviewed scientific journals has been analysed. Across the studies covered by this paper it was found that on the one hand the globalization, fashion, social imitation and technological progress influence on their willingness to try or use modern ways of nutrition, such as convenience food, fast food, functional or dietetic food or takeaways and eating in restaurants. On the other hand, the ethnocentric attitudes, respect for tradition and desire to eat organic food are also indicated. However, the barrier such as price, ignorance and availability limit consumption of healthy and traditionally made products. It is necessary to promote these products in the mass media, organise social campaigns aimed at increasing consumer awareness not only about its quality, but also labelling of this type of food and distribution channels.*

Keywords: *consumers' preferences, young consumers, food market*

1. Introduction

Young consumers constitute a substantial part of every society. Teenagers are considered as a separate segment of market consumers since the end of World War II, especially in the United States in America. Separate market of young consumers is appeared in increasing market activity of young people and in growth of sums of money, which is spent by them. It is also observed in forming and developing of many forms of adolescents' participation in market processes. Several groups of young consumers, such as children at the age of 4 (they are represented by mothers), at the age of 5-6, who start participating in market, children at the age of 7-8, who start understanding the concept of budget and are able to buy something for their own pocket money, teenagers at the age of 12-13, who buy commodities personally to satisfy their own needs, at the age of 15-19 or more, who have individualized and permanent contacts with the market could be identified. It should be noted that more and more often young people have a significant influence on family purchasing decisions [1].

Young people, other than adults, feel the needs, perceive the reality, understand marketing messages, have different value system and ways of behaviour. The young generation is characterized by a great curiosity of the market, observation of its mechanisms, search and interest in innovations, the desire to imitate the lifestyle of the authorities or opinion leaders, the tendency to fashion and trends coming from other countries. They also have specific expectations from the market, regarding the product and service offer, its attractiveness, modernity and diversification, also relative to food market [2].

There are a lot of determinants, which could determine young consumer behaviour on food market. On the one

hand, the globalization, fashion, social imitation and technological progress influence on their willingness to try or use modern ways of nutrition, such as convenience food, fast food, functional or dietetic food or takeaways and eating in restaurants. On the other hand, the ethnocentric attitudes, respect for tradition and desire to eat organic food are indicated.

The aim of this article is to identify young consumers' preferences on food market associated with their attitudes towards traditional or modern consumption pattern, based on secondary sources of information published over the period of 2001-2016. Article shows theoretical aspects of traditional and modern food behaviour, determinants of young people food preferences and researches conducted by chosen authors associated with young people preferences. A literature review methodology has been used and in particular the latest publications in peer-reviewed scientific journals has been reviewed.

2. Traditional food behaviour

Traditional food can be considered as food that is often consumed in some community or during celebrating special events, passed from generation to generation and known for their sensory properties [3]. The unique raw materials, technologies, the relationship with the region and its culture are intrinsic features that distinguish between regional and traditional products from mass-produced food in large processing factories. The high quality of the products is concerned by using traditional, often ecologically-friendly raw materials such as old fruit varieties, old cereal varieties and native livestock breeds. In many regions there are shops or chain stores specialized in selling regional and traditional products, which are increasingly popular with consumers [4]. Products made in

regions and traditional methods are more and more often available at fairs and festivals [5]. Regional and traditional products are an increasingly important tourist attraction and often have a significant impact on the increase in the number of tourists visiting the region. Therefore, it contributes not only to increase of the producer's income, but also to the development of the region. Tourists can taste them during their stay on agritourist farms, participation in folklore or culinary events or exploration open-air museums [4]. Food and religious norms have a major impact on food consumption, some psychological needs are satisfied in various ways in different cultures. The best examples are regional cuisines [6].

Traditional consumer behaviour is also characterized by the preference for a short food supply chain by consumers. The short supply chain in distribution systems is associated with producers, who exist as consumers, that is, consumers grow their own products. What is more there is a partnership among producers and consumers, in which case the final purchaser shares the risks and benefits related to production with the producers. In addition, manufacturers sell products directly to consumers at traditional marketplaces [7].

3. Modern food behaviour

In recent years, there has been a growing interest in modern food, such as fast food, convenience food, functional food or dietetic food, which are highly processed. Fast food is defined as convenience food which could be purchased in carry-out or self-service places [8]. Convenience food is defined as partially or fully prepared food items, where all or some culinary skills, preparation time or energy inputs are provided by food processor instead of home-maker's kitchen [9]. Food can be considered as functional if it has beneficial impact on one or more functions of the human organism, improve general and physical conditions or/and decrease the risk of the evolution of some diseases [10]. Dietetic food is defined as food which due to the special manufacturing process or the specific content is clearly distinguishable from another types of food and is dedicated for the particular use by people with impaired metabolic or digestive process, or for people who, while in specific physiological condition, ought to receive controlled nutrients [11].

The development of information and communication technologies has significant impact on the behaviour of consumers related to food purchases. More and more often busy consumers choose e-shopping. Consumers in developed countries, for instance in the USA or in some countries in Europe, use the Internet for everyday shopping and the popularity of purchasing grocery online is increasing annually in both the USA and Western Europe [12].

Nowadays, the fast development of servicization of food consumption phenomenon can be observed. Eating out is increasingly practiced throughout the world, significantly affecting the structure of household spending. This trend is particularly noticeable in China, France, the United States, the Netherlands, the United Kingdom and Norway. Between 2009 and 2012, in the UK there was an increase

in consumer spending on out-of-home food consumption by 7%, which was € 11.40 per person per week, while take-out food expenses increased by 11%, to an average of € 2.28 per person per week, accounting for more than a quarter (26%) of total household spending on non-alcoholic beverages and food [13].

Among the examples of modern food behaviour, it is worth to notice the kind of transformation of consumer needs. Modern consumer more and more often prefers various experiences than material possessions. Therefore, producers try to create new products with unique taste or appearance, such as chocolate with salt or coffee flavoured Coca-Cola [14]. Also restaurants are tried to be attractive for consumers, using unique menu, places or interior design [15].

4. Determinants of young people food preferences

Several determinants, which affect young people food preferences, such as globalisation, fashion, social imitation and technological process could be indicated. Globalization of consumption leads to the unification of patterns of consumption and consumer behaviour. Moreover, it contributes to the penetration of consumption patterns, the creation of global consumer culture and global consumer segments, which are distinguished based on values and attitudes towards objects and brands [16]. The psychosocial norms become particularly important in creating household consumption, determining the willingness to buy and emerging in such areas as social imitation and fashion. It is worth noting that fashion, on the one hand, allows people to express their individuality and, on the other, is an evidence of belonging to a particular group [17]. For example, after the popularity of coloured and aromatized food and industrial food production, natural products made in the traditional way are of particular interest [18]. What is more, globalisation of consumption contributes to create the phenomenon so-called ethnocentrism of consumers, which is manifested in the preference of buyers of native products [19]. Also regional products, made locally, in the traditional, organic way, are more and more important for consumers [20]. The development of information and communication technologies has significantly altered the behaviour of consumers related to food purchases. Increasingly, in addition to the traditional form, busy consumers choose e-shopping, look for product information in Internet [21]. What is more, manufacturers use new technologies to advertise their products. There are multiple techniques and channels which are used to reach youth, e. g. TV, advertisement, product placements in computer games or online marketing. It is observed that most of most of them concern snack food, breakfast cereals and fast food outlets [22].

5. Young consumer food behaviour and attitude towards food – researches review

A survey conducted by Jeżewska-Zychowicz in the form of a questionnaire interview was conducted in 2007 in Warsaw, at a group of 203 people aged up to 30 years. The aim of the research was to determine consumer attitudes

towards traditional Polish products and dishes, knowledge and willingness to consume selected products and dishes representing Polish cuisine in the future, taking into account attitudes towards new food. The analysis shows that the surveyed population of young consumers is characterized by a strong attachment to traditional Polish cuisine, which is demonstrated by their attitudes towards traditional Polish products and dishes and the choice of traditional products from multinational food goods. It is also identified that the level of neophobia was significantly correlated with the choices made. The higher level of neophobia represented by consumers is linked with the greater acceptance of traditional food [3].

As it has been mentioned earlier, the development of globalisation contributes to create new phenomenon in consumer behaviour, called ethnocentrism. Siemieniako et al. conduct studies with students' participation, which goal was to explore the characteristics of Polish consumers' national and regional ethnocentric attitudes and behaviours. Authors identify factors which make a brand of beer being Polish one to young people: it must be physically made in Poland, use traditional Polish recipe and Polish ingredients. Also image of a brand is very important for them. It has to be based on Polish culture, referring to symbols connected with a particular region or origin. This research shows that a product like beer and its regional character might play a very significant role in consumers' regional identity. It becomes a symbolic artefact, which materialise their sense of connection with a place and their moral obligation to buy local brands. It also creates a physical sense of belonging to a particular tribe, in which one was born and grew up [23].

Several researches show that young people generally have heart about organic food, however their knowledge about organic agriculture and food is low. Despite that fact, their attitude towards organic food is positive and becomes even more positive after reading its definition. Organic food is positively connected with animal welfare, environmental welfare and health. However, there is negative link between price, taste and eating organic food, with taste being regarded the most significant factor [24]. Another important factors that are identified as inhibiting purchase organic products are their high price as well as lack of knowledge about the organic food market sales and low availability of these products [25].

There have been some studies, which indicate that young people have extensive knowledge of probiotic foods. They generally know that probiotic products might have positive impact on human health, however, the frequency of its consumption depends on their financial condition. Young people, who describe their financial situation as very good or very bad, eat probiotic-rich products almost daily. The persons who describe their situation as good or satisfactory declare that they eat probiotic products several times a week. Most of young consumers declare that they choose these products due to their taste and half of respondents appreciate the health benefits of probiotic food [26].

Notwithstanding, there are several studies, which show, that young consumers prefer highly processed food. It is indicated, that convenience food in Poland is usually

bought by young people. Young consumers indicate that they mostly consume poultry concentrates (broths, instant soups) and poultry carcass components. Most of them say that the offer of "convenience food" is satisfactory. Ease of meal preparation and time savings are the most important factors of choosing it. In their opinion, the lower price is the main determinant which could influence higher frequency of purchasing the convenience food [27].

Many authors conduct studies associated with young consumers' attitudes toward fast food restaurants. Story and Stang notice that during adolescence, teens spend more time with friends and less time with their families. Young people try to be more independent, so they prefer eating away from home. Researches show that over half (52%) of out-of-home eating occasions take place at school, followed by fast food restaurants (16%), other locations (16%), and vending machines (6%). About 31% of all food eaten away is made in fast food restaurants. 83% of young people eat in fast food restaurants. They choose this kind of restaurants for several reasons. First of all, they offer a social, informal and comfortable atmosphere for them. What is more, they are relatively inexpensive, fast and offer socially acceptable choices. Moreover, fast food could be eaten outside, what perfectly fits into busy schedules of young people [28]. It should be noted that eating fast food is commonly associated with lower intake of vegetables, fruit, grains and serving of milk, and with higher intake of cheeseburgers, pizza, French fries and soft drinks. There is positive link between employment of young persons, availability of unhealthy food at home, television viewing, perceived barriers of healthy eating and frequency of fast food consuming [29]. There are also several studies of nutritional habits of pre-school children, which indicated that they choose and consume fast food products very often [30, 31, 32].

Skidmore et al. find that both distance to and density of local food outlets are associated with food intake by young people. Close proximity to convenience stores and supermarkets is generally associated with a higher prevalence of reporting of unhealthy food choices, and reduced consumption of fruits and vegetables. What means that young people prefer to take away some food than cook it in traditional way [33].

The increasing process of virtualisation of consumption is connected with an increase in the number of purchases of products and services made via the Internet. Online shopping is more popular among younger generations (16-44 years old) than those older (45-74 years old) [34]. The most important determinant and advantage of online business success is the convenience of online shopping and the possibility of saving time. What is more, consumers avoid the limitations associated with localization or opening hours [35].

Conclusion

The aim of this article was to identify young consumers' preferences on food market associated with their attitudes towards traditional or modern consumption pattern. Across the studies covered by this paper it was found that determinants, such as globalisation, fashion, social

imitation and technological progress induce young people to choose modern form of food behaviour. However, these trends might contribute to create traditional, ethnocentric and pro-health attitudes, which are a response for too artificial, fast and busy lifestyles. This argument could be also supported by another example of new phenomenon in young consumers' behaviour: cocooning. Cocooning, which in a free translation, can be described as homeostasis, domesticity or return to old, tradition way of life, seems to be the answer to the too intense lifestyles. Even young people need rest and detaching from reality, so they increasingly stay at home, isolating themselves from excessive momentum. However, they do not give up their duties or pleasure, because many things can be solved by using new technology, such as the Internet or mobile technology [2].

As the literature studies show, generally young people prefer high produced food, which is associated with its price and comfortable aspects. The better availability, price and knowledge of healthy and traditionally made products could significantly influence on their food behaviour. However, it is necessary to promote these products in the mass media, organise social campaigns aimed at increasing consumer awareness not only about its quality, but also labelling of this type of food and distribution channels.

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VALUATION OF SHARES AND THEIR FAIR VALUE OF THE COMPANIES LISTED ON THE WIG-TELECOM SECTOR QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND WITHIN 2012-2017 AND THEIR FAIR VALUE*Rafał Parvi*

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Abstract: *This paper examines share price of the companies listed on the WIG-TELECOM and their fair value between 2012-2017. Data from 2012 to 2017 were collected from the Stooq.pl (Polish portal of shares). Two hypotheses are tested: (1) value of the shares based on the market price; (2) value of the shares as the fair value of shares.*

Keywords: *telecommunication, fair value of shares, company, market value of shares.*

1. Introduction

The structure of the telecommunication market in Poland has been stabilised for several years. Access to the Internet, mobile and fixed telephony generate more than 68% of the entire market's value. In 2013, the total value of the telecommunication market amounted to PLN 40.15 billion (total amount of revenue generated by the telecommunication entrepreneur, in respect of conducting the telecommunication business in the year under report, in PLN, excluding VAT). The year of 2014 was the one of declining revenues from the telecommunication services which amounted to 0.6% compared to the previous year. The largest decrease (3.7%) was reported in the case of the fixed telephony, although, it was lower by 15% than in the previous year. Declines did not exclude also services of the fixed telephony. They were higher than the previous year and amounted to 1.2%. The reduction of MTR (*Mobile Termination Rate*) as well as the further development of the flat-rate offers on the mobile market certainly contributed to this phenomenon [5, 6, 17, 20, 21].

The only segment, which reported the increase of value, was the Internet access services. The mobile access was one of the most popular services, exceeding the European average with its level of satisfaction. Despite many actions undertaken by the Regulator, the Government, local government units and the telecommunication entrepreneurs, the access to the landline Internet still represented one of the lowest levels among the European Union's countries. The positive trends within the market definitely include the increase in the number of lines with higher and higher transfers offered by operators [14].

The mobile telephony was still an attractive segment of the telecommunication market, despite the high penetration and strong competition. Subscribers of the mobile telephony have increasingly used the data transmission in the phones. The reason for this is undoubtedly the increasing popularity of the packages included in the subscription. The mobile operators have expanded their offer beyond the area of mobile telephony, they established cooperation with the banking and energy sectors by offering a wider package of services [5].

Bundling of offers was an important trend. It enables to meet the demand for a few telecommunication services at a more attractive price than their individual purchase. The cable television operators were the main operators of the bundled services [6, 15, 26].

2. Fair value of listed companies

Share price of the companies listed on the Stock Exchange should reflect also their fair value. The fair value can be defined in several ways. In view of the foregoing, the fair value is a value used repeatedly in accounting, and thus in Article 28 (6) of the Accounting Act of 29.09.1994 as "the amount for which a given asset component could be exchanged, and the liability could be paid on market transaction terms between interested and well-informed, unrelated parties.

In view of whether the price of shares that are quoted on the stock exchange corresponds to their fair value, should be found in the value alone, since, after all, the values may be diverse, like the value of a similar company, producing similar goods and operating in the same industry, will also be diverse for various reasons.

The subject of trade covers minority shares, and the main market participants are retail investors or minority institutional investors, thus the price of shares should reflect the fair value characterizing the liquid minority interest.

The value presented in this way seems righteous, which is confirmed by the premium paid by the investors who announce calls for subscription for shares and plan in this way the purchase of the controlling interest. Then the premium reflects the difference between the level of liquid minority interest and the level of controlling interest. Sometimes the level takes into account benefits resulting from synergy. An investor purchasing the controlling interest in this way receives premiums that appear after taking over control of a company, in the form of funds, business management and making a number of strategic decisions.

The fair value of the share price should be determined in accordance with the idea of capital market, namely the market participants should have equal access to data, information and all messages concerning a given company [15, 16]. However, the investors are divided into three groups:

- People with access to the most closely guarded information that affects the price and the business value, namely those can the company's management board or shareholders,
- Institutional investors with blocks of shares with simultaneous access to the company's management board,
- Individual investors who have access to public information.

There is one premise more to determine the fair value of share price. The investors are fond of investing in shares, namely they buy them as in the past they managed to earn on them and they feel that presently the share price is ideal and reflects their fair value and will enable them to obtain fair dividend in the future [1, 3].

Such a purchase or sale of shares can largely overestimate or underestimate the share value of a quoted company. Here the chemical industry may serve as an example, namely shares in chemical companies at the beginning of the new millennium, when shares in these companies were being purchased without any analysis in technical terms, but looking at their name and value, which was increasing overnight. In view of the foregoing, this led to excessively high business value above its fair value.

The share price should thus reflect the fair value of a company listed on the Warsaw Stock Exchange. For the value of these companies be fair, the market must make available to all investors information regarding companies listed on the Warsaw Stock Exchange. The shareholders should be treated equally; therefore we cannot distinguish majority shareholders as those who should have information unavailable for minority shareholders. First of all, shares should be liquid securities, therefore they should be in free float and have real-time transferability, namely at any moment and at any time during the office hours of the Warsaw Stock Exchange on a business day.

3. The development of the telecommunication market in Poland

The WIG-TELECOM index, presented in Figure 1, shows that from 2012 to 10.2017, the telecommunication sector companies in Poland showed a downward trend in their values.

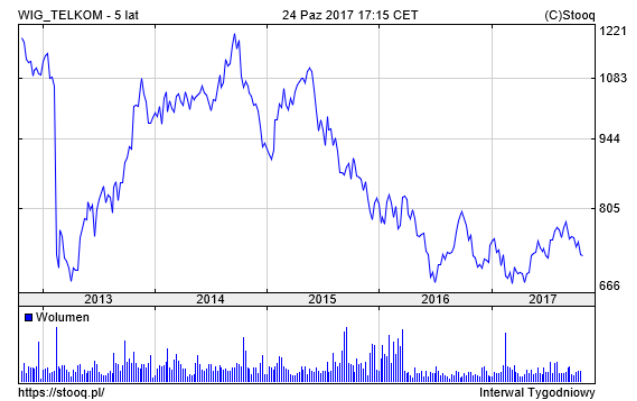


Figure 1: WIG-TELECOM in the period from 12.2012 to 10.2017 [26].

However, from the first quarter of 2017, a significant upward trend as well as the achievement of the highest levels, up to the level of 805 points in the index. The telecommunication sector's companies in Poland showed a downward trend in their values. The values reported on 24.10.2017. However, the market values do not reflect the fair value of the telecommunications sector companies.

4. Analysis and valuation of the WIG-TELECOM sector's companies quoted on the Warsaw Stock Exchange (WSE) in Poland

In the telecommunication sector, it is possible to record one company, the value of which approached to its maximum price on 24.10.2017, and this is PLAY. The remaining companies did not have its maximum or even fair value, though they can show the net profit and good financial condition, and it is CYFRPLSAT. Some companies were overvalued by even 90%. These companies are NETIA and ORANGEPL. However, the flagship companies, such as NETIA and ORANGEPL, stay ahead (Table 1-2).

Table 1 The Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 09.03.2015 (own development based on the data of the Warsaw Stock Exchange)

Name	Average rating	rating
CYFRPLSAT	4.0/5.0	BB-
NETIA	4.0/5.0	BBB
ORANGEPL	5.0/5.0	CCC+
PLAY	No data	No data

Table 2 The Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.10.2017 (own development based on the data of the Warsaw Stock Exchange)

Name	Current price PLN	Maximum price PLN from the beginning of the stock exchange quotation
CYFRPLSAT	24.31	27.31
NETIA	4.00	108.90

ORANGEPL	4.94	18.70
PLAY	36.49	37.07

Table 3-4 presents the key ratios that show the financial condition of the telecommunication sector's companies. Within the three examined companies, the generated profit per share was reported in 3 companies. It shows that the telecommunication companies prosper properly on the financial market and are able to record higher or lower profits. However, the profit was not reported in three companies, and they were CYFRPLSAT, NETIA and ORANGEPL.

The price to the operating earnings shows the losses of the company at the negative, and this state of affairs was reported in one stock exchange quoted company (ORANGEPL). NETIA generated a positive double-digit ratio, and the other companies, CYFRPLSAT generated a positive one-digit ratio but it is a satisfactory result.

Table 3 Technical evaluation of the Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.10.2017 (own development based on the financial data of the Warsaw Stock Exchange)

Name	P/OE (price/ operating earnings)	P/BV (price/ book value)
CYFRPLSAT	8.57	1.33
NETIA	29.08	0.79
ORANGEPL	-4.52	0.64
PLAY	No data	No data

In contrast, analysing P/BV and P/P, it should be noted that both the price to the book value and the price to profit demonstrate that three companies operate exemplary on the market and have a value of about 1.0, and these are: CYFRPLSAT, NETIA and ORANGEPL [4, 5, 7, 10, 11, 12, 19].

Other companies do not significantly differ from the average values, and it is PLAY (No data)

Table 4 Technical evaluation of the Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.10.2017 (own development based on the financial data of the Warsaw Stock Exchange)

Name	P/P (price/ profit)	Profit per share
CYFRPLSAT	1.59	0.455
NETIA	0.95	0.044
ORANGEPL	0.56	0.054
PLAY	No data	No data

Table 5-6 presents the studies concerning, among others, the net profit, depreciation, EBITDA and assets of the telecommunication sector's companies.

According to the obtained values, it is clear. Other companies have shown a substantial profit which was generated in 2017 [13, 14, 17, 18].

According to the book value per share, it is possible to deduce that some companies are overvalued, and these are CYFRPLSAT, NETIA, ORANGEPL and PLAY (Table 7).

Table 5 Technical evaluation of the Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.10.2017 (own development based on the financial data of the Warsaw Stock Exchange)

Name	Net profit (net loss) in thousands PLN	Depreciation in thousands PLN
CYFRPLSAT	291200	500900
NETIA	15158	78565
ORANGEPL	71000	642000
PLAY	EUR 39041	EUR 218738

Other companies have shown a substantial profit which was generated in 2015.

Table 6 Technical evaluation of the Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.10.2017 (own development based on the financial data of the companies quoted on the Warsaw Stock Exchange in Poland)

Name	EBITDA in thousands PLN	Assets in thousands PLN
CYFRPLSAT	1017900	27317500
NETIA	98913	2399002
ORANGEPL	811000	22576000
PLAY	EUR 340770	EUR 10380212

Table 7 The Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.10.2017 (own development based on the data of the Warsaw Stock Exchange)

Name	Book value per share in PLN
CYFRPLSAT	18.239
NETIA	5.081
ORANGEPL	7.688
PLAY	5.583

However, it is important not to follow this opinion because the values are only the book values, and the calculation of them is purely mathematical and financial. In the case of using the economic attitude and interpretation, it would occur that the companies do not have the fair value [2, 16, 18, 19].

The profitability of the equity as well as the profitability of assets is shown only by CYFRPLSAT, NETIA and PLAY. Therefore, according to the presented study, it is possible to observe that the flagship telecommunication concerns have the profitability and they are not threatened by any disturbance of the financial liquidity (Table 8).

Table 8 The Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.10.2017 (own development based on the data of the Warsaw Stock Exchange)

Name	ROE	ROA
CYFRPLSAT	10.82	4.22
NETIA	2.46	1.83
ORANGEPL	-14.87	-7.16
PLAY	42.51	5.72

Currently, the value of companies significantly deviates from the maximum value achieved a few years ago. The only one exception is CYFRPLSAT and PLAY, which achieved the maximum value in its history. Other companies have the value less than 50%, and even 90% of the maximum one (Table 9).

Table 9 The Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.10.2017 (own development based on the data of the Warsaw Stock Exchange)

Name	Current value	Maximum value
CYFRPLSAT	24.31	27.31
NETIA	4.00	108.90
ORANGEPL	4.94	18.70
PLAY	36.49	37.07

However, the fair value which should be reflected by the share prices of the examined companies significantly differs from the calculated value, which was presented in Table 10.

In some cases, it is even 45% of the current value. The fair value is considerable higher than the current value of the examined companies, and only similar in one company, CYFRPLSAT [6, 12, 13, 16].

Table 10 The Telekom sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.10.2017 (own development based on the data of the Warsaw Stock Exchange)

Name	Fair value	Deviation from the fair value in PLN
CYFRPLSAT	26.05	1.74
NETIA	28.00	24.00
ORANGEPL	15.40	10.46
PLAY	37.00	0.51

5. Conclusion

The share price of the telecommunication sector's companies quoted on the Warsaw Stock Exchange in Poland is significantly underestimated by the current financial situation in the world [8, 9, 10, 11].

Telecommunication companies should demonstrate the higher value, and at least the fair value because the telecommunication in Poland is developing very well, and is even a promising big development for the future years. In some European Union countries the development of the

mobile telephony is slower, and the users still remain at the landline telephony. One such country is Sweden, where even 95% of families still have landline phones.

Telecommunication companies earn money because they largely focus on the sale of modern services connected not only with the phones, the ICT transmission, but they also introduce packet services and combine together telephony, television and the Internet [1, 22, 23, 24, 25].

The flagship telecommunication companies achieve huge profits, which was confirmed in the studies of ratios in the last few years and the net profit studies in 2014.

The fair value of the telecommunication sector's companies quoted on the Warsaw Stock Exchange in Poland should be achieved within four years, until 2020, because for this period, the further rapid development of the telecommunication in Poland should be estimated.

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INFORMATION SYSTEMS AS ESSENTIAL PREREQUISITES FOR ELECTRONIZATION OF PUBLIC ADMINISTRATION IN THE SLOVAK REPUBLIC

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Abstract: *The article deals with the issue of information systems of public administration regarding electronization of public administration. In the introductory part of the article the author focuses on clarifying the information system, its history, purpose and linking with the area of informatization of society. After a brief analysis of basic attributes of information system, are clarified information systems of public administration with reference to the most used information systems. At the conclusion of the article the author summarizes the discussed issue and analyses advantages of electronic information systems and represents shortcomings of the current systems in connection with the electronization of public administration.*

Keywords: *information system of public administration, electronization of public administration, automated information system*

1. Introduction

The information system is related to the system approach to object and process exploration, which in the 20th century has definitely replaced the mechanistic system. The mechanistic approach was founded by Isaak Newton, who understood an object as a sum of several parts, and the properties of this object derived from the properties of its parts, without observing and considering interacting with these parts. On the other hand, the system approach, led by Ludwig von Bertalanffy, focuses on the relationships, ties and mutual influences of these parts. According to the second theory, the system is understood as a set of elements in mutual interaction. The element of the information system can be an item, a document, a man, a machine etc.[1]. The first information systems began to be developed in the 1970s and 1990s, replacing previously used autonomous applications that were constantly accompanied by technical problems. After the massive expansion of the Internet, there have been several changes, such as the development of portal solutions for information systems that allowed access to information through a web application - an Internet portal [2]. Information systems are designed to make it easier to work with a huge amount of information, but their creation and subsequent use in practice is rather complex. For this reason, we can observe the effort of experts to develop the theoretical principles of work with information within electronization of information systems by applying various means of information.

1.1 Concept of information system

The basic definition of the term *information system* is found in the provision 2 of the Act no. 275/2006 Coll. on Information Systems of Public Administration and on Amendments to Certain Acts, as amended (hereinafter also referred to as the "Act on Public Administration Information Systems"), according to which: *„the information system is a functional unit ensuring a purposeful and systematic information activity through*

technical and program means, which are part of the information system or which provide the information system with another information system.“ [3] Each information system includes a certain information base, the technical and program means for its processing, the different technologies of activity, the procedures and the employees working with the information system. Decree of the National Security Authority no. 339/2004 Coll. on Safety of Technical Equipment, as amended (hereinafter also referred to as "Decree on the Safety of Technical Equipment") provides an explanation of the information system from a technical point of view, as follows: *„information system means one or more computers, their software, peripherals, processes or means that form the unit capable of collecting, creating, processing, storing, displaying and transmitting classified information.“*[4] From a technical point of view, therefore, the information system represents a tool which collects the primary data, stores the collected data for later transformation into derived data, summarizes, sorts, distributes, presents of output data. [5]

In practice, various concepts are used to indicate an information system by which the legislator or user expresses a material object or an act involving information work. These are the following terms: registration (e.g. driver registration), register (e.g. register of population of the Slovak Republic), list (e.g. list of drugs), statistics (e.g. state statistics), book (e.g. book of maintenance and repair of wagons), log (e.g., ship's log), record (e.g. registry record), overview (e.g. overview of children who need to provide alternative family care) or inventory (e.g. inventory of movables). Some other information systems have their own unique name such as real estate cadastre. On the other hand, there are information systems for which there is no suitable name stating that it is an information system (e.g. data needed to compile statistics on trade between Member States of the European Union).

1.2 Information systems of public administration

Information systems have a key role in public administration. The reason for this is the fact that the execution of the public administration lies in the decision-making on the rights, the legitimate interests and the obligations of natural persons and legal entities. Every employee of the public administration needs information to carry out this activity as well as other activities. They may obtain certain information from the law, submissions of the parties, the results of their own activities, as well as from data provided by the public authorities. The information is therefore contained in various information systems to which employees of public offices and other entities have access. The legal definition of the public administration information system is provided by the Act on Public Administration Information Systems, in the provisions 2, according to which: „*the information system of public administration is an information system under the responsibility of the liable public entity as the administrator supporting public administration services.*“ [6] At present, the most widespread information systems of public administration are information systems under the theoretical title of "basic registers". This name should emphasize their importance as the primary sources of certain information, both declarative and constitutive. However, the Explanatory memorandum to the Act no. 305/2013 Coll. on the Electronic Form of Execution of Powers of the Public Authorities and on the Amendment to Certain Acts (the e-Government Act) states that there are no registers in our legal system which are referred to as basic. Individual registers of the public authorities exist but without the "basic" status. In spite of this, we will keep using "basic registers" in the following parts of the paper in order to distinguish between certain information systems. Examples of basic registers in the public administration include the following information systems of the public administration:

- *Register of the Population of the Slovak Republic (Act No. 253/1998 Coll. on the Reporting of the Residence of the Citizens of the Slovak Republic and the Registers of the Population of the Slovak Republic, as amended),*
- *Register of Natural Persons (Act No. 253/1998 Coll. on the Reporting of the Residence of the Citizens of the Slovak Republic and the Registers of the Population of the Slovak Republic, as amended),*
- *Trade Register (Act No. 455/1991 Coll. on Trades Licensing, as amended),*
- *Commercial Register (Act No. 513/1991 Coll., Commercial Code as amended),*
- *Real Estate Cadastre (Act No. 162/1995 Coll., Real Estate Cadastre and Registration of Ownership and Other Real Estate Rights, as amended),*
- *Register of Spatial Information (Act No. 3/2010 Coll. on the National Infrastructure for Spatial Information, as amended)*
- *Register of Addresses (Act no. 125/2015 Coll. on the Register of Addresses and on Amendment to Certain Acts, as amended).[7]*

A key role in the processes related to the information systems of the public administration have the liable public entities, as administrators of information systems. These liable public entities are responsible for the creation, management and development of information systems at a specific section of the public administration where they execute the public administration according to special regulations. [8] An important part of everyday tasks of the liable public entities under the Act on Public Administration Information System is issuing of electronic transcript of data from information systems of public administration and of the electronic output from information systems of public administration. The formation of the issuance of electronic transcripts and electronic outputs from information systems arises from the development of information and communication technologies, which currently allow access to data with the guarantee of originality and integrity. Electronic transcript is the summary of requested data from the information system of public administration, which is accessible in electronic form, signed with the qualified electronic signature of the liable public entity. Despite the informatization of society, it is clear that it has not yet reached its 100 % usability. For this reason, the law regulates the possibility to get the transcript of data from the information system of public administration in a way of a certified paper form of electronic transcript, which has a validation clause. [9]

2. Legal regulation of information systems of public administration

Regulation of information systems of public administration is contained in a huge amount of legislation, as individual sections of the public administration work with multiple information systems. The following can be identified as the basic and general legal framework for information systems of public administration:

1. *Law no. 275/2006 Coll. on Information Systems of Public Administration and on Amendments to Certain Acts, as amended,*
2. *Decree of the Ministry of Finance of the Slovak Republic no. 55/2014 Coll. on Standards for Public Administration Information Systems (hereinafter also referred to as (Decree on Standards for Public Administration Information Systems“ or „Decree on Standards“),*
3. *Decree of the National Security Authority no. 339/2004 Coll. on Safety of Technical Equipment, as amended,*
4. *Act no. 305/2013 Coll. on the Electronic Form of Execution of Powers of the Public Authorities and on the Amendment to Certain Acts (the e-Government Act), as amended,*
5. *Decree of the Office of the Government of the Slovak Republic no. 8/2014 Coll. which implements certain provisions of the e-Government Act.*

Ad 1.) Act on Public Administration Information Systems

The Act on Public Administration Information Systems, effective from June 1, 2006, became one of the first Slovak

Acts in the period of the evolving Europe-wide process of informatization of society. This act regulates the rights and obligations of the liable public entity in the field of creation, operation and development of information systems public administration, then fundamental conditions for ensuring the integrity and security of information systems, operation of the central portal of public administration, and also the procedure for issuing of the electronic transcripts and electronic outputs from information system. [10]

Ad 2.) Decree on Standards for Public Administration Information Systems

The Decree on Standards is effective from March 15, 2014, and was issued under section 13 of the Act on Public Administration Information Systems. This regulation replaced the currently valid and effective Decree of the Ministry of Finance of the Slovak Republic no. 312/2010 Coll. on Standards for Public Administration Information Systems. The concept of standards for information systems of public administration is regulated in the provisions 6, as follows: „*standard is a set of rules related to the creation, development and use of information systems of public administration that contains characteristics, procedures and conditions, in particular as regards the security and integrity of information systems of public administration. Standards must be open and technologically neutral.*“ [11] The Decree on Standards is designed to reflect the current state of development of information and communication technologies as well as changes in the organization of state administration and territorial self-government. The reason for the adoption of the new decree was the reaction to the results of the analysis of the application of the current yield in practice. [12] The benefit of the new legislation is to strengthen communication between public authorities and citizens or entrepreneurs, based on the fact that according to the current decree, the authorities will no longer be entitled to reject certain file formats that will be electronically signed. This means that citizens can use any format for submitting a document or message to a public entity, and these are required to read each format.

Ad 3.) e-Government Act

The e-Government Act is effective from November 1, 2013, and is a key piece of legislation for the electronization of public administration and electronic information systems. This Act includes regulation of some information systems for the exercise of powers of the public authorities in electronic form. In particular, public authorities are required to ensure the creation and operation within their scope of these information systems of public administration:

- a) *Access Points,*
- b) *Common Modules,*
- c) *Agenda Systems.* [13]

Ad a) Access Points are communication interfaces that can be used to communicate electronically. They are intended to ensure contact between the public administration and the persons about whose rights, legitimate interests and the responsibilities public administration electronically

decides or in relation to which public authorities execute public administration.

Ad b) Common Modules are information systems of public administration that centrally ensure the unified performance of the basic functions necessary for the execution of public administration by electronic means and which are repeatedly used by public authorities in electronic communication for the purposes of electronic public administration.

Ad c) Agenda Systems are also information systems of public administration. These are managed by the public authorities and are intended to ensure the execution of public administration within the scope and authority of public authorities under special regulations.

In all the above cases, information systems ensure public authorities possibility to exercise public power in electronic form. The primary function of these information systems is to enable the functioning of public administration by electronic means in its entirety and at every stage without the need for personal contact or sending documents between public authorities and citizens or entrepreneurs, as well as ensuring their accessibility to persons with disabilities.

3. Conclusion

Information systems are the primary and key element of a modern and efficiently functioning public administration. Aspects of information and communication technologies can also be seen in this area, in particular in the form of automated electronic information systems that collect reference data in an electronic way in a virtual environment. Currently, almost all public authorities work with automated electronic information systems in an extend that we can say that they are not able to work anymore without them or without information and communication technologies. Despite the many risks, automated electronic information systems are beneficial, efficient and easy to work with for employees of public authorities, as well as for citizens and entrepreneurs. The next step towards greater efficiency and achievement of overall electronization of the public administration is to ensure the interoperability of individual information systems and hence the possibility for public authorities of the access to all the data needed to deal with one official matter so that the citizen does not have to submit data and materials to several public authorities repeatedly. One of the positive steps taken by was the adoption of the e-Government Act, which became a fundamental platform for several processes of electronization of public administration, including issue of information systems of public administration.

Based on the analysis of information systems of public administration, we believe that these offer several advantages, which can be summarized as follows:

- a) *ensuring greater availability of almost all public services,*
- b) *lower costs of handling official matters,*
- c) *the unlimited scope of the possibility of dealing with an official matter (7/24),*
- d) *automation and archiving of documents,*

- e) *mutual cooperation and communication between public authorities,*
- f) *reducing the burden on the environment.*

One of the key principles of properly functioning electronic public administration is the interoperability of information systems, that means, they are interconnected and capable of communicating and exchanging data. In this sphere, we identify a problematic aspect in Slovakia. To put it simply, our basic registers are not interconnected. This is due to the fact that competent creators of information systems fail to comply with standards for its creation and operation. This problem is all the more serious that it is not easy to remove it.

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Session: Industrial Engineering, Innovations

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A SPECIAL PURPOSE MECHANISM FOR BACKLASH ELIMINATION ON A PLANETARY GEAR WITH INTERNAL-TOOTHED WHEELS

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Abstract: Design of the integrated gear mechanism is arranged so that the three-phase asynchronous motor chassis with a squirrel cage is integrated directly to a gear mechanism with internal teeth. In order to eliminate all the backlashes in the gearing and bearings, the design is branched into two identical gears between which includes a flexible component. The kinematics of bodies, which held general planar motion, are solved by matrix methods of investigation of constrained multibody systems.

Keywords: anti-backlash designed mechanism, planetary gear, vernier, preload

1. Introduction

In engineering practices, there is often a need for precise positioning of physical objects, such as workpieces, tools, prefabricated components, transported materials, finished products, etc. The positioning device may include linear axis of a machine, rotary positioning table, robotic manipulator and many other cases. In many cases it is necessary to accelerate and brake objects of significant weight. This implies that the drive positioning systems work with relatively large forces and torques, and relatively low speeds. Because the conventionally designed electric motors usually operate at higher speeds than positioning devices require, it is necessary to insert an appropriate reduction mechanism of rotary motion between the motor's rotor and output shaft.

The essence of the concept described in this paper is the built backlash-free planetary gear directly with the chassis of the electric motor, forming a single construction unit. The gear mechanism, as well as any kinematic mechanism, is made with clearances and tolerances of dimensions. Between the input and output shafts are several such clearances arranged in series, therefore their heights increasing. As such, the clearances have a negative effect on the kinematic precision of motion transmission from the input shaft to the output shaft. If the drive is used as a servomotor with a feedback, the backlash implies difficulties and in the regulation of movement. There are usually high requirements to positioning devices for kinematic precision of motion control, therefore the elimination of the backlash is an important technical problem to overcome.

2. Function principle of the integrated gear mechanism

Design layout of the gearbox is resolved so that a gear with internal teeth is integrated directly to a chassis of electric motor with squirrel cage (fig. 1). In order to eliminate all backlashes in the gearing and bearings, the design is branched into two identical gears (path A, path B), between which includes the flexible component [1], [2]. The paths of transmission are located symmetrically around the plane of symmetry of the motor. Attached

to each end of the rotor are eccentric cams, with the cams interacting with toothed wheels (satellites) on ball bearings. These are in mesh with the central wheels containing internal teeth, with the central wheels rigidly supported to the chassis of the motor. From the satellites, rotary motion is converted to an output shaft through annular Oldham couplings and carriers.

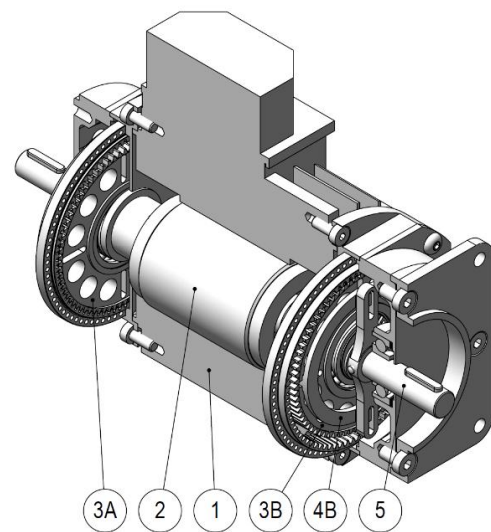


Fig. 1. Internal structure of integrated gearbox: 1) stator with stator winding and ring gears, 2) squirrel cage with carriers, 3A) 3B) satellites, 4A), 4B) Oldham couplings, 5) output shaft.

3. Backlash elimination

In order to eliminate all the backlash in the gear mechanism, it must be assembled in a preloaded condition so that gears have been forced into mesh in opposite directions without external load. During operation, the power is transmitted to either one or the other branches of the transmission, depending on the direction of rotation of the input shaft (rotor). Each branch contains a separate arm of the output shaft. The preload is achieved by torsionally flexible connection between the both arms. The described prototype is designed such that the arms are mounted on a

common continuous output shaft, which can be loaded with additional torque M_{Tk} , which is an optional parameter. Because the output shaft is designed to be very stiff (in the described prototype it is a full steel shaft with diameter 12 mm and length 151 mm), it is possible to achieve the desired elimination of backlash when choosing arbitrarily small values of the preload. Because the assembly of the whole mechanism is statically indeterminate, the parameter M_{Tk} must be considered in each computation of force conditions.

The design of setting the torsion preload is solved by turning the ring gears to each other and fixing their positions in the motor chassis. In order to avoid any positional change in the operation, it is necessary to use form-fit joints, in this instance, the selected connection pin. However, because the necessary angular position of gear rings continuously adjusts, the set of pin holes is drilled around the whole perimeter of the ring wheels and motor chassis, working on the vernier principle. Moreover, the number of holes is bound by the number of teeth ring gears, so that the number of possible positions of gears is very large (see below). Due to the high number of adjustable positions, the engineering precision is continuously smooth (fig. 2).

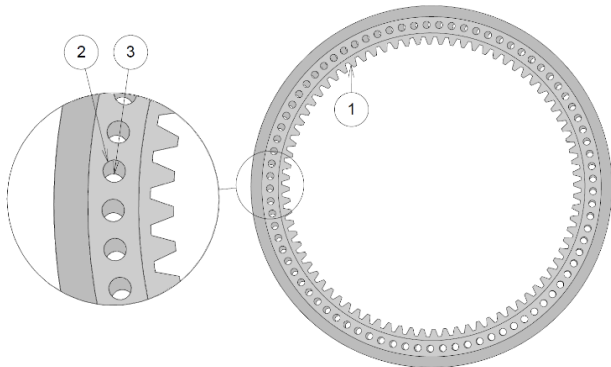


Fig. 2. Vernier for the backlash elimination in the transmission mechanism: 1) teeth number of ring gear z_k , 2) number of holes for the pin in ring gear $z_k + 1$, 3) number of holes for the pin in motor chassis $z_k + 2$.

$$n = z_k (z_k + 1)(z_k + 2) \quad (1)$$

Number of the possible angular positions of the ring gear n is given by (1).

If the ring gear has 80 teeth for example (as described herein prototype), the total number of possible angular positions of installation is $80(80 + 1)(80 + 2) = 531\,360$. This corresponds to an angular precision installation of approximately $\pm 2,5''$.

4. Kinematic scheme and gear ratio

Figure 3 shows a kinematic diagram of the gear mechanism. Each transfer branch is composed of members presented in table 1. Furthermore, the table shows the kinematic constraints between individual members and the

types of movement that they perform. Since all members perform plane motion in mutually parallel planes, the mechanism is solved as planar.

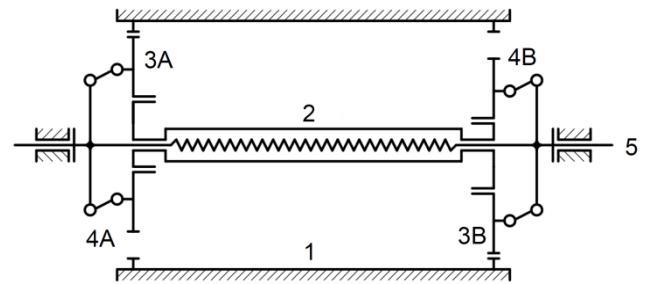


Fig. 3. Kinematic diagram of the gear integrated with electric motor.

Table 1. Members of the gear mechanism and the constraints between them.

mechanism member		motion class	constraint	between members
1	stator	fixed	rotary	1-5, 2-3, 2-5
2	rotor with carriers	rotary	linear	3-4, 4-5
3	satellite	planar	general	1-3
4	Oldham coupling	planar		n
5	output shaft	rotary		

The number of degrees of freedom for each branches given by equation (2).

$$i^\circ = 3(n-1) - 2(r+p) - o = 3(5-1) - 2(2+2) - 1 = 1^\circ \quad (2)$$

Because the motor's rotor and output shaft arms are joined to one kinematic member, and the ring gears are rigidly joined to motor chassis, the number of degrees of freedom for all mechanism is also 1° .

The gear ratio, derived by Willis method, is given by (3). In the equation (3) label ω_2 is the angular speed of the motor's cage, ω_5 angular speed of the output shaft, z_s teeth number of the satellite and z_k teeth number of the ring gear.

$$i = \frac{\omega_2}{\omega_5} = - \frac{z_s}{z_k - z_s} \quad (3)$$

5. Determination of kinematics using matrix methods

5.1 Coordinate systems

The transmission mechanism is a planar system of bodies with one degree of freedom. To investigate the kinematic dependences, appropriate coordinate systems must be chosen- global, which will be resolved to the movements of all members of the mechanism, and a local, strongly associated with moving bodies (figure 4).

All members are considered as rigid bodies in kinematic solution.. The arms of the output shafts of individual transmission branches are interconnected by an elastic element. Since other elements with which they are kinematically joined are rigid, the arms are in operation

relative to each other, rather than independently, which consequently results in the common coordinate system 5 for the output shaft and the arms.

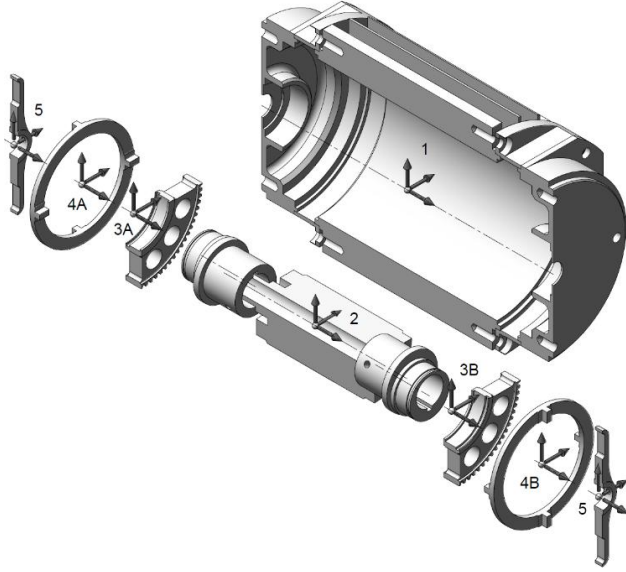


Fig. 4. Coordinate systems: 1 – stator with ring gears, global coordinate system $O_1x_1y_1z_1$, fixed, 2 – rotor with carriers, coordinate system $O_2x_2y_2z_2$, 3A – satellite A, coordinate system $O_{3A}x_{3A}y_{3A}z_{3A}$, 3B – satellite B, coordinate system $O_{3B}x_{3B}y_{3B}z_{3B}$, 4A – Oldham coupling A, coordinate system $O_{4A}x_{4A}y_{4A}z_{4A}$, 4B – Oldham coupling B, coordinate system $O_{4B}x_{4B}y_{4B}z_{4B}$, 5 – output shaft with arms, coordinate system $O_5x_5y_5z_5$.

Kinematic variables of individual members and radiusvectors of the investigated points have upper index denoting the coordinate system in which these variables are related. If the variable is in the global coordinate system, the upper index is omitted. (Example: coordinates of point O_{3A}^{3A} are related to coordinate systems 3A, coordinates O_{3A} are related to the global coordinate system.)

5.2 Coordinate transformation

To be able to solve variables in the global coordinate system, which is needed to determine the forces acting on individual members, it is necessary to construct the transformation matrix for the transition between different coordinate systems. Figures 5 to 12 shows the relative positions of coordinate systems and the corresponding transformation matrices.

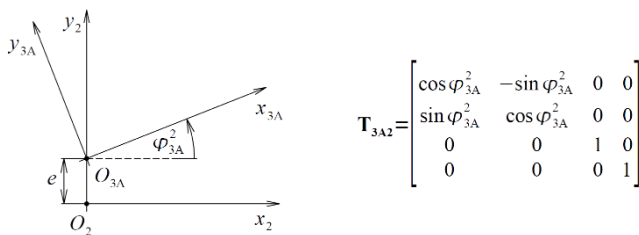


Fig. 5. Transformation matrix $2 \rightarrow 1$

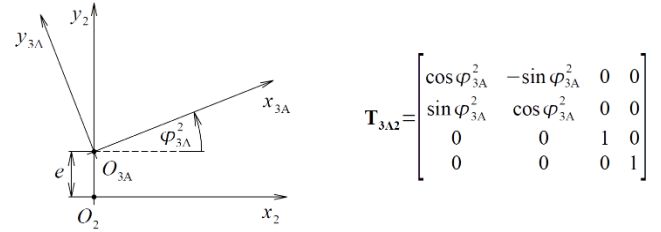


Fig. 6. Transformation matrix $3A \rightarrow 2$

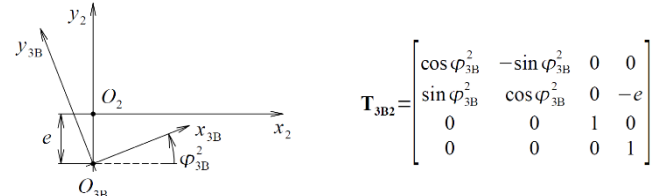


Fig. 7. Transformation matrix $3B \rightarrow 2$

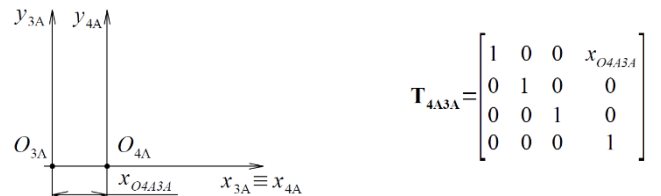


Fig. 8. Transformation matrix $4A \rightarrow 3A$

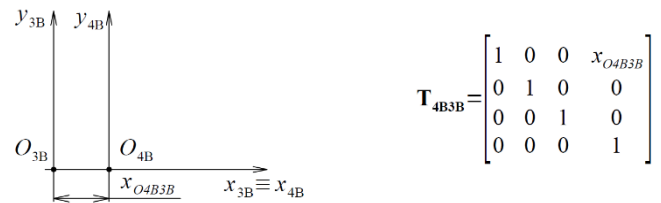


Fig. 9. Transformation matrix $4B \rightarrow 3B$

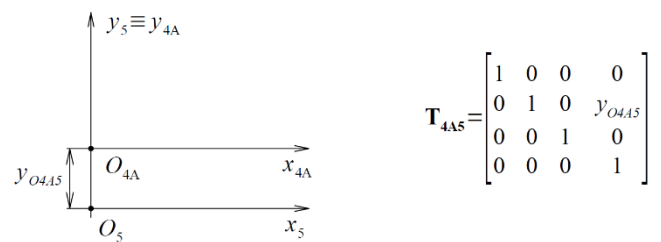


Fig. 10. Transformation matrix $4A \rightarrow 5$

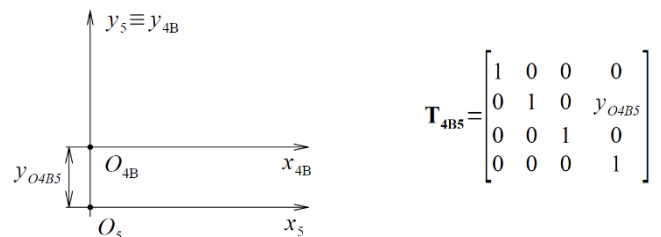


Fig. 11. Transformation matrix $4B \rightarrow 5$

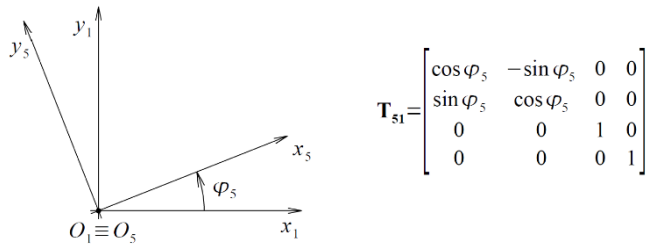


Fig. 12. Transformation matrix 5 → 1

The matrix index determines the direction of the transformation. (Example: transformation matrix \mathbf{T}_{4A3A} determines transformation 4A → 3A, transformation matrix \mathbf{T}_{3A4A} determines transformation 3A → 4A.) Matrices are extended, with matrices dimensions being 4x4. Matrix components at positions [1,4], [2,4] and [3,4] correspond to moving the origin of the coordinate system in the directions x , y and z . Transformed radiusvectors must therefore be a 4-dimensional too. Their term is $\mathbf{r} = [x, y, z]^T$. Because the investigated mechanism is planar, the coordinate z is zero. Transformation 2 → 1 has general relation (4).

$$\mathbf{r}^1 = \mathbf{T}_{21} \mathbf{r}^2 \quad (4)$$

5.3 The kinematic dependences

The independent variable of all movements was chosen with the rotation angle of the rotor with carriers to the stator φ_2 . This angle can be any function of time $\varphi_2 = \varphi_2(t)$. From the kinematic constraints result dependences

$$\varphi_5 = \varphi_{3A} = \varphi_{3B} = \varphi_{4A} = \varphi_{4B} = -\frac{1}{i} \varphi_2, \quad (5)$$

$$\varphi_{3A}^2 = \varphi_{3B}^2 = \varphi_5 - \varphi_2, \quad (6)$$

where i is gear ratio (equation (3)). The equation (5) fully determines the motion of the output shaft. It remains to solve the general planar motion of the satellites and Oldham couplings.

Satellite A: Using basic decomposition of motion, it is possible to decompose the satellite A motion to a circular motion and a relative rotary motion. Reference point is O_{3A} . Trajectory of the point is circular with radius e . The circular motion is given by

$$\mathbf{O}_{3A} = \mathbf{T}_{21} \mathbf{T}_{3A2} \mathbf{O}_{3A}^{3A}. \quad (7)$$

Substitute equations (5) and (6) and expand (7) to components gives equations for coordinates of point O_{3A} in coordinate system 1:

$$O_{3Ax} = -e \sin \varphi_2, \quad (8)$$

$$O_{3Ay} = e \cos \varphi_2. \quad (9)$$

Relative rotary motion is given by (5). The motion description of satellite B is analogous.

Oldham coupling A: Reference point of basic decomposition is the point $O_{4A}^{4A} = [0, 0, 0, 1]^T$. Moving motion is given by

$$\mathbf{O}_{4A} = \mathbf{T}_{21} \mathbf{T}_{3A2} \mathbf{T}_{4A3A} \mathbf{O}_{4A}^{4A}. \quad (10)$$

By multiplication of equations (10) and substitution of (5) and (6) gives the equations for moving motion

$$O_{4Ax} = x_{O4A3A} \cos \frac{\varphi_2}{i} - e \sin \varphi_2, \quad (11)$$

$$O_{4Ay} = -x_{O4A3A} \sin \frac{\varphi_2}{i} + e \cos \varphi_2. \quad (12)$$

With the kinematic constraints must also apply the equation

$$\mathbf{O}_{4A} = \mathbf{T}_{51} \mathbf{T}_{4A5} \mathbf{O}_{4A}^{4A}. \quad (13)$$

Component equations for position of point O_{4A} in coordinate system 1 are

$$O_{4Ax} = y_{O4A5} \sin \frac{\varphi_2}{i}, \quad (14)$$

$$O_{4Ay} = y_{O4A5} \cos \frac{\varphi_2}{i}. \quad (15)$$

From a comparison of the right-hand sides of equations (11), (12), (14) and (15) result a system of two linear equations with a parameter φ_2 for unknown displacement of coordinate systems $x_{O4A3A} = x_{O4A3A}(\varphi_2)$ and $y_{O4A5} = y_{O4A5}(\varphi_2)$.

Final expression for the position of the reference point O_{4A} at global coordinate system 1 is in the form

$$O_{4Ax} = e \cos \left(\varphi_2 \frac{1+i}{i} \right) \sin \frac{\varphi_2}{i}, \quad (16)$$

$$O_{4Ay} = e \cos \left(\varphi_2 \frac{1+i}{i} \right) \cos \frac{\varphi_2}{i}. \quad (17)$$

Relative rotary motion is given by (5). The motion description of Oldham coupling B is analogous.

6. Conclusion

The aim of paper was to introduce and explore in detail the kinematics of special gear mechanism, which is integrated with the driving electric motor in one unit and thus form a rotary electric actuator. Detailed determination of kinematic variables dependency mechanism is needed for a specific engineering design the drive of that principle. Further work will mainly cover the design of gear with respect to secondary interference on the heads of teeth and optimize the design to the strength.

Acknowledgements

The research work was made possible by VUTS, a.s. Liberec on research project FR-TI1/594.

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DRYING BEHAVIOUR AND PROCESS INFLUENCE ON SOME QUALITY PARAMETERS OF SUN-DRIED FIGS

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Abstract: Drying is one of the oldest method for fig fruit preservation. Dried fig fruit is considered important for human nutrition in many research works, due to the presence of phytonutrients, and their positive effect in health. This work attempt to investigate the drying behaviour of figs, and the process influence on some quality parameters. For the study was chosen a local fig variety, traditionally sun-dried in Albania. Bleaching and $K_2S_2O_5$ pre drying treatments were applied, with attempt to increase the quality of the dried product, and to reduce the drying time too. The drying kinetics and diffusion coefficients were experimentally determined. From data resulted that drying time last 132,657-185,217 s depends on pre-treatment applied, whereas the diffusion coefficients resulted $1.2-3.125 \times 10^{-10} m^2/s$. Antioxidants compound content per 100 g sample resulted 117.88-174.44 mg gallic acid equivalents, 23.58-77.43 mg catechin equivalents, and 8.87-29.85 mg ascorbic acid equivalents, respectively for total polyphenols, flavonoids and antioxidant activity, which in comparison to fresh fruit, drying played a significant influence on their content. Despite speeding up the drying process, the applications of pre-treatment offered a better quality dried product, almost for BS-KMS sample which resulted with higher quality compared to other samples. Thus, the application of bleaching plus KMS could be recommended to local processors for fig drying as appropriate for reducing the drying time and better conservation of dried products in term of some quality parameters.

Keywords: drying kinetic, figs, antioxidants, pre-treatment

1. Introduction

Drying of fruit and vegetables is one of the oldest forms of food preservation methods known to man and is the most important process for preserving food since it has a great effect on the quality of the dried product [10]. Fig, one of the earliest cultivated fruit, with several varieties, is dried and stored for later consumption [25]. Widely applied methods for fig drying are traditional (sun drying) or conventional hot-air drying [3].

During the convective drying of solids, two processes occur simultaneously, namely: transfer of energy from the surrounding environment; and transfer of moisture from within the solid. On comparison of the drying kinetics of fruit and vegetable systems, the nature of the product was found to impart a significant influence on the drying behaviour [4]. Recently, there have been much research on the mathematical modelling and experimental studies of the drying behaviour of various fruits, such as grapes [5], [11, 12], apricots [14, 18], figs [2], prickly pear [13], plum [8, 21], and mulberry [9, 15].

[26] evaluated the effective diffusion coefficient of figs, considering the shrinkage. [3] selected used the best model among several thin-layer drying models available, for figs drying model. [16] described a new empirical model for thin-layer drying process and also compared with other single-layer drying models. [10] investigated behaviour of figs dried under sun and fitted the drying data to different mathematical models. However, much has still to be accomplished before fresh fig fruit can be successfully dried, and to give quality products with the required degree of functionality.

Thus, the present study was undertaken to study experimentally the drying behaviour of a local Albanian fig variety directly exposed to the sun. Also, the

application of pre-treatments and process influence in quality parameters will be investigate.

2. Materials and methods

2.1 Plant material

For this study was selected the local variety of *Ficus carica* named "Roshnik" (yellow skin colour and red pulp), traditionally sun-dried. Its cultivation area is Roshnik village (40°42'51.56"N 19°58'48.02"E) in Berat region. Fruits were harvested at the middle of the August 2017 at optimal maturity and immediately transported to the laboratory. The selection of fruits were done based on weight in order to ensure a uniform size, appearance, maturity, and health conditions.

2.2 Sample preparation and drying conditions

Before drying, fruits were pre-treated as: blanching in boiling water with 1% NaCl solution for 1 min, cooling to $25 \pm 2^\circ C$ using tap water (blanching water to fruit ratio was 12:1), also fruit were dipped in 0.2% $K_2S_2O_5$ (KMS) for 1 min (sample code B-KMS); only treated with KMS (sample code KMS), and untreated samples was used as control (sample code C).

2.3 Drying process

Sun-drying process the fruits were set on a mesh in three repetition per treatment, and exposed direct to sunlight during the day from 8 am to 20 pm. They were manually turned twice a day, while during the night they were covered in order to avoid absorbing air humidity. The average temperature during the day ranged from 39 to $41^\circ C$, and the process last approximately from 5 to 3 days.

2.4 Preparation of extracts

Methanol extracts were prepared by extracting 1 ± 0.001 g grinded fig samples with 10 ml of aqueous methanol 80% (v/v), homogenized for 1 minute using Ultra-Turrax T-25 (Ika-Labortechnik, GR), with speed set 11000 1/min, and centrifuged using centrifuge Eba 21 (Hettich, GR) for 15 min at 4500 rpm. This process was repeated three times and supernatants were collected and analysed. Extracts of fresh and dried fig samples were prepared separately. All samples were analysed in triplicate.

2.5 Assessments and determinations

The weight of the material was measured in fixed time intervals using a precision balance with an accuracy of 0.001 g. The drying data from the different drying tests were then expressed as moisture ratio X_r versus drying time, and drying rate versus moisture rate, in order to determine drying kinetic and diffusion coefficients.

The moisture content was determined, both for the fresh and for the final dried products according to [1], pH was determined using pH meter UB-10 (UltraBasic, Denver Instrument) [1]; TSS was measured using ABBE refractometer; total acidity (expressed as % citric acid) was determined by titrating with 0.1N NaOH [1].

Total phenolic content of the extracts was determined according to [22] with some modification and results were expressed as gallic acid equivalents mg GAE 100 g⁻¹ DM⁻¹ (dry matter of sample). Total flavonoid content was measured using AlCl₃, a colorimetric method [28], and results were expressed as (+) catechin equivalents (mg CE 100 g⁻¹ DM⁻¹ of sample). Total anthocyanin's content was measured according to the pH differential method [5], and results expressed as cyanidin-3-glucoside equivalents (mg C3G 100 g⁻¹ DM⁻¹ of sample). Antioxidant activity of extracts was determined using ABTS radical scavenging assay [20]. 10 µl of extract was mixed with 990 µl of ABTS reagent, and the result was expressed as *ascorbic acid equivalents* (mol AAE 100 g⁻¹ DM⁻¹ of sample).

3. Results and discussion

The results are given on Table 1 and Figures 1-4. The weight of pre-selected fig fruits was 28.61 ± 1.28 g, with yellow skin colour and red pulp. The drying process took approximately 3-5 days.

Table 1 Physico-chemical parameters of figs

Roshnik fig variety	Acidity ^a (% citric acid)	Dry matter ^a (%)	pH ^a	Ash (%)
fresh	0.18±0.005	37.31±0.19	5.91±0.01	1.05±0.09
Control	0.60±0.015	77.35±0.15	4.45±0.005	2.15±0.16
Bleached	0.56±0.005	78.85±0.16	4.65±0.005	2.25±0.11
B-KMS	0.55±0.007	77.62±0.10	4.67±0.005	2.25±0.15
KMS	0.58±0.014	76.28±0.02	4.66±0.005	2.1±0.10

(a: mean value ± standard deviation)

Referring to Table 1 the dry matter was 37.31 % for fresh figs, while for dried figs was higher (77.35-78.85 %).

The ash content resulted 1.05-2.25%. The total soluble solids (TSS) of fresh fruit was 27°Brix, and the higher content of total soluble solids make it more suitable for drying. Titratable acidity expressed as citric acid, resulted to be concentrated after drying, accordingly, after drying process the pH values were decreased with increment of total acidity. The above data were in the range reported [19, 23] for this fruit species.

3.1 Drying curves

Drying curve in figure 1, it is obvious that decreases during drying time. In attempt to modelling the drying curve the moisture ratio (X_r) was simplified to X/X_0 instead of $(X-X_e)/(X_0-X_e)$, where X_0 , X and X_e are initial, after time (t) and equilibrium moisture contents, respectively. This was done because the relative humidity of the drying air continuously fluctuated under sun drying conditions [6].

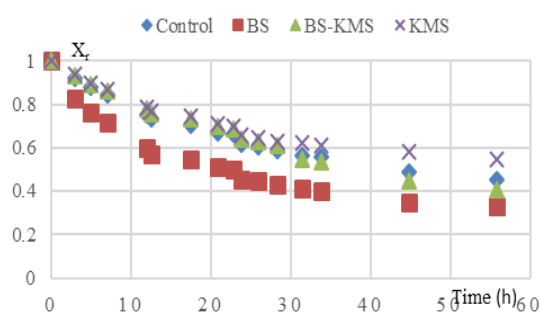


Figure 1: Moisture ration versus drying time

Drying time in seconds for each case was analytically calculated. The higher drying time was achieved for KMS samples (185,217 s), followed by control sample (173,868 s), while for bleached samples was noted a reduction in drying time (132,657 s (BS), and 139,074 s (BS-KMS)).

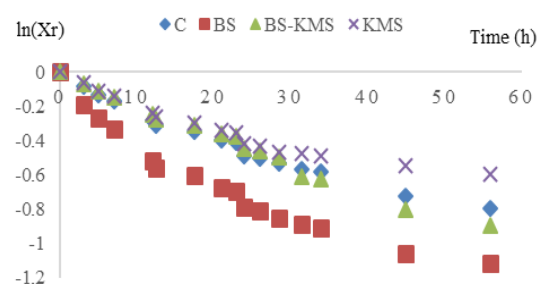


Figure 2: $\ln(X_r)$ versus drying time

The diffusivity was calculated using the slopes deduced from the linear regression of $\ln(X_r)$ versus time data in Figure 2. From the experimental data of drying curves, diffusion coefficients were calculated, and resulted from 1.25 to 3.125×10^{-10} m²/s. The estimated diffusion coefficient values lie within the general range of 10^{-11} to 10^{-8} m²/s of food materials [27]. Higher coefficient values was for bleached samples, due to the dewatering of the

tissue, which resulted in faster drying and better colour preservation. This was in accordance to [4].

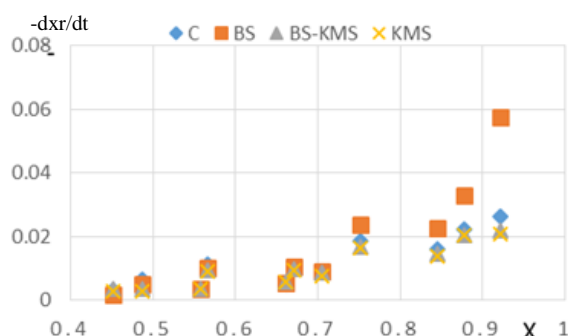


Figure 3: The drying rate versus relative moisture content

From the drying curves of samples was noted that drying took part in the falling rate period, this was in accordance with other similar works [10, 13, 24]. The drying rate was higher in the beginning of drying process, due to the rapid movement of the moisture within the fig fruit, almost for BS sample, while in the end the drying rate was similar for all samples. For KMS treated samples was noted a slow begging of process, and the final product had the better quality.

3.2 Antioxidant Compounds

Figure 4 shows that the total polyphenolic (TP) content of fresh and dried figs before and after pre-treatment, was for fresh figs 81.66 ± 0.76 GAE $100 \text{ g}^{-1} \text{ FW}^{-1}$ (fresh weight) and in dried fruits ranged between 117.88 – 174.44 mg GAE $100 \text{ g}^{-1} \text{ DM}^{-1}$.

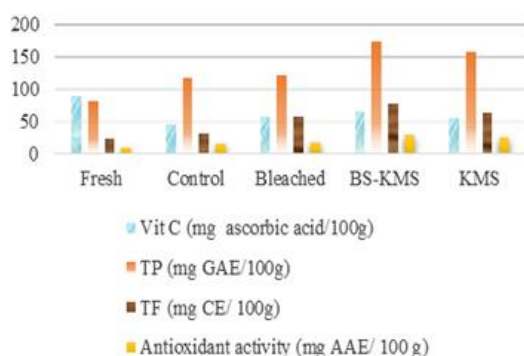


Figure 4: Antioxidant compounds content in fig samples

Pre-treated samples had different phenolic content, and could be said that bleaching plus KMS had a positive effect on content of polyphenols, showing a greater phenolic content than other dried samples. Accordingly, the same trend of values was seen for total flavonoids (23.58 – 77.43 mg CE $100 \text{ g}^{-1} \text{ DM}^{-1}$) and antioxidant activity (8.87 – 29.85 mg AAE/ $100 \text{ g}^{-1} \text{ DM}^{-1}$). Anthocyanins were depleted in dried figs, whereas in fresh figs were detected in small amounts, due to their red pulp (0.58 mg C3G $100 \text{ g}^{-1} \text{ FW}^{-1}$ of sample). Many studies showed a good correlation between polyphenols and antioxidant activity.

The results for vitamin C given in the Figure 4, shows that compared to fresh fruit, the long drying time and exposure to high temperatures degraded its content in dried fruit, even the process was under mild conditions.

The highest values for all antioxidant compounds resulted for BS-KMS sample, and this pre-treatment could be considered as the best for application.

4. Conclusion

The sun-drying is traditionally applied in Albania for figs drying. Drying curves showed that drying took place in the falling rate. The application of pre-treatments resulted necessary for speeding up the process, and had a positive role in product quality, offering a final product with better colour, shape, softer structure, also a higher content of antioxidant compounds, widely known for their beneficial role in human health. The best results for dried figs in terms of quality parameters were achieved according to the order: BS < KMS < BSKMS.

Despite some disadvantages of sun-drying concerned to safety issues, sun-drying technique is still being used in Albania, and different improvement should be taken by the farmers. So we recommend them the application of tested pre-treatment as effective and beneficial to the process and to the product. Furthermore, the selected fig variety named “Roshnik” showed an agricultural product with high nutritional and economic potential, and further attempt should be made for modelling and simulation of drying process for technological purposes in Albania.

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SUSTAINABLE PROCEDURE FOR USING WASTE OF DATE SEEDS AS A REINFORCEMENT MATERIAL FOR POLYMERIC COMPOSITES

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Abstract: In this article, particles of date seeds as a natural strengthening of the polyester resin and proportions strengthen (1%, 2%, 3%) were used. For the purpose of comparison with the properties that were obtained in these composite materials reinforced by date seeds particles have been manufacturing a composite material of the same resin reinforced particles calcium carbonate industrial, the same proportions strengthen above. Results showed that the samples that contain a date seeds have a high resistance strain compared to models that contain calcium carbonate and this increase in tensile strength increases with the amount of particles date seeds, plus a big improvement in impact resistance samples have particles date seeds and increases with increasing reinforcement ratio compared with sample have calcium carbonate particles.

Keywords: Date seeds, Recycling waste, Sustainable composite material.

1. Introduction

The accumulation of agricultural industries wastes considered as significant environmental problems in many countries around the world and with plants, where there are no waste recycling plants, or they do not have the competence required to complete the process of recycling. One of these types of plant waste is the date seeds. Date seeds are considered as a dry waste, which has lightweight, large size (i.e. low density and quality), and these wastes accumulated in large quantities causing a real problem because it is considered one of the environmental pollutants when burned, in addition to being a shelter for rodents and insects. Therefore, it is important to find out how to incorporate these wastes in the applications of green and sustainable engineering as a competitor environmental and economical alternative for synthesis materials existing and to be used only in the feed industry. One of the areas using the waste of date seeds is in the manufacturing of engineering parts based on composite materials. The use of these applications for sustainable or green works to achieve sustainable development, which is the real development that has the ability to communicate and stability from the perspective of their use of natural resources and take the environmental balance as the essential base [1-7]. The Babylonians, who use the manufacturing technology of composite materials and the concept of sustainable development as the Babylonians build their homes by agricultural waste (like the hay) with mud to strengthen it. Thus, Iraq was the first country in the world that applied the principle of sustainable development in the construction. The composite consists of mixing two materials or more with different mechanical and physical properties in order to development of a new hybrid material has properties not available in the original materials. In nature, there are many examples of composites including cellulose fibers with the wood

material. In the industry, the reinforcement with fibers was the most commonly used [8-11].

2. Methodology

2.1 Materials: Three kinds of materials were used in this article:

- Unsaturated polyester resin (SIROPOL 8340-PI): The supplier for this resin is Saudi industrial resins limited (SIR), and the physical and chemical properties of this resin shown in Table 1.
- Date seeds: were obtained from Karbala canning factory which is raised as waste when the manufacturing of molasses (pekmez). Date seeds were cleaned by complete immersion in distilled water and exposed to ultrasonic waves to remove dust and dirt. After drying by sunlight for a whole day, date seeds were grinding by using micro mill to (0.5 µm) particle size, and then the powder was put into the furnace and heated to the temperature (25°C) for a period of (5 hr) for the disposal of the moisture absorbed completely from the particles.
- Calcium Carbonate (CaCO₃): this material was used as an industrial comparison material, to ensure that the properties of the composite material can be improved when adding particle of date seeds. The supplier for this material is Central minerals & transport joint stock company with (0.5 µm) particle size. Properties of CaCO₃ shown in Table 2.

2.2 Sample Preparation and tensile test: The samples were fabricating and testing according to ASTM D 638 standard. The tensile test was done by tensile testing machine type (WDW-5E) with maximum testing load 5KN. Table 2 shown the percentages of materials involved in the samples.

Table 1 Physical and chemical properties of polyester[12]

Physical State	Clear liquid
Color	Yellow
Odor	Pungent
Boiling Point	Not Available
Melting Point	Not Available
Density	1-1.3 g/cm ³ [25°C (77°F)]
Flash Point	Closed cup: 30°C-33°C (86- 91.4°F) [Setaflash.]
Vapor Density	3.6 [Air = 1]
Evaporation Rate	>1 (Butyl Acetate. = 1)
Explosion Limits	Greatest known range: lower: 1.1% ,upper: 8% (Styrene)
Vapor Pressure	0.6 Kpa (4.5 mm Hg)
Solubility	Insoluble in the following materials: cold water
Viscosity	Dynamic: 400- 600 Mpa·S (400-600 Cp)
	Kinematic: 3.75-5.75 cm ² /S (375- 575 Cst)

Table 2 Properties of Calcium Carbonate (CaCO₃) [13]

Purity	98
Physical state and appearance	Powder
Color	White
Odor	Odorless
Boiling Point	Not applicable
Melting Point	825°C
PH value	8-9
Auto ignition Temperature	Not applicable
Vapor Density	Not available
Specific Gravity	2.71
Solubility in Water	1~2mg/100ml
Vapor Pressure	Not available

Table 3 The percentages of materials involved in the samples (wt.%)

Sample no.	Polyester	Date seeds	CaCO ₃
1	99	1	1
2	98	2	2
3	97	3	3

3. Results and discussions

Figure 1 represents the tensile strength of polyester resin without additives. From this figure, we observe that the maximum stress for the sample before fracture (Tensile strength) can be (25 Mpa) and maximum load (max. load) can afford before fracture (520 N). Pure polyester resin without any additives considered as a brittle material which will have low tensile strength as shown in this figure.

Figure 2 shows the tensile strength of the polyester reinforced by (1 wt.%) date seeds where it appears that the maximum tensile strength (30 Mpa) and maximum load (max. load) can afford before fracture (630 N). Figure 3 shows the tensile strength of the model that contains (1% wt) from minutes of calcium carbonate, which shows that the maximum stress endures form before fracture (Tensile strength) is (28 Mpa) maximum load (max. load) can afford before fracture (605 N).

From Figure 2 and Figure 3, we can note that the sample containing (1% wt) particles of date seeds have resistance

against fracture is greater than the sample that contains (1% wt) particles of calcium carbonate, it means that natural particles (date seeds) give strengthen reinforcing more with the matrix base (polyester) compared to particles of calcium carbonate, also bonds between particles of date seeds and matrix more powerful because when analyzing these particles we found it contain chemical groups effective bilateral, triangular and ring like (-OH, CH₂, CH₃, Si-O-Si, C=C, and Si=H) increases the power of linking between particles and matrix, and that the number of active groups in date seeds particles double totals compare with particles of calcium carbonate and therefore it increases the power of linking between data seeds and the matrix. Also through the figures above note that the amount of the maximum load has been bringing before the fraction be higher in the sample containing (1% wt) date seeds particles compared with the sample (1% wt) with particles of calcium carbonate.

Figure 4 shows the tensile strength of the polyester reinforced by (2 wt.%) date seeds where it appears that the maximum tensile strength (36 Mpa) and maximum load (max. load) can afford before fracture (746 N).

Figure 5 shows the tensile strength of the sample (2% wt) with particles of calcium carbonate, which shows that the maximum stress before fracture (Tensile strength) is (34 Mpa) and maximum load (max. load) can afford before fracture (729 N). In Figure 4 and Figure 5, we can note that the sample containing (2% wt) particles from date seeds have resistance against fracture is greater than sample containing (2% wt) particles from calcium carbonate.

Figure 6 shows the tensile strength of sample containing (3% wt) particles of date seeds, so that maximum stress before fracture (Tensile strength) is (50 Mpa) and maximum load (max. load) can afford before fracture (1050 N). Figure 7 shows a sample that containing (3% wt) with particles of calcium carbonate, which shows that the maximum stress before fracture (Tensile strength) is (47 Mpa) and maximum load (max. load) can afford before fracture (996 N).

From Figure 6 and Figure 7, we can observe that the sample containing (3% wt) particles of date seeds have resistance against fracture is greater than the sample with (3% wt) particles of calcium carbonate. We can note from all the above figures that the samples containing particles of date seeds have high resistance against breakage than samples that contain particles of calcium carbonate because the natural particles give more reinforcement for matrix material plus the strength of links between it and the matrix, we note the ratio of particles of date seeds if it increases more that means the resistance to fracture strength increases.

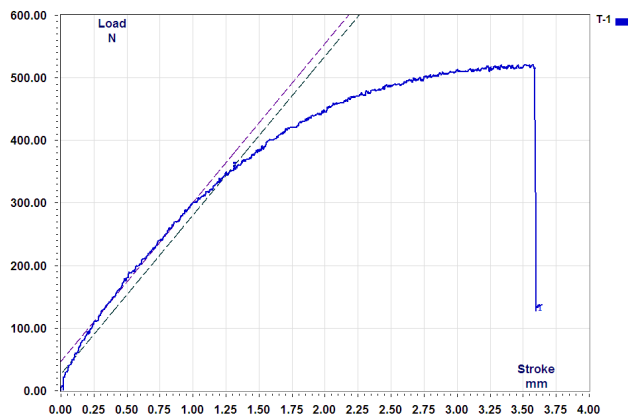


Figure 1: Tensile strength of the polyester resin

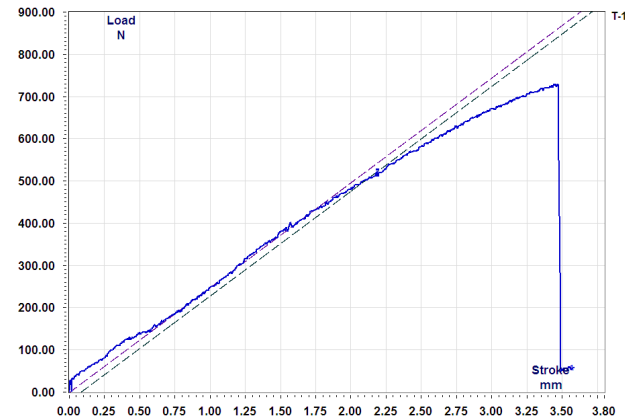


Figure 4: Tensile strength of polyester reinforced by 2wt.% particles of date seeds

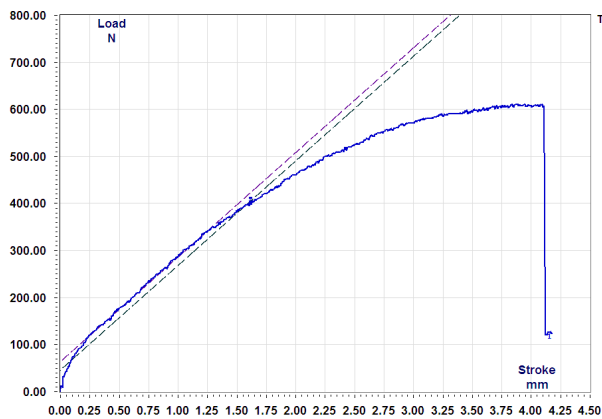


Figure 2: Tensile strength of polyester reinforced by 1wt.% particles of date seeds

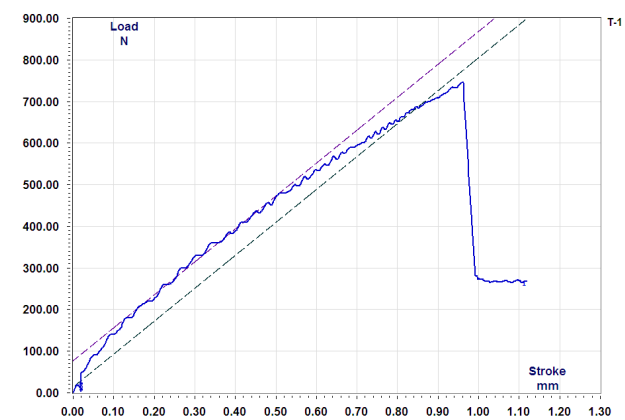


Figure 5: Tensile strength of polyester reinforced by 2wt.% CaCO_3

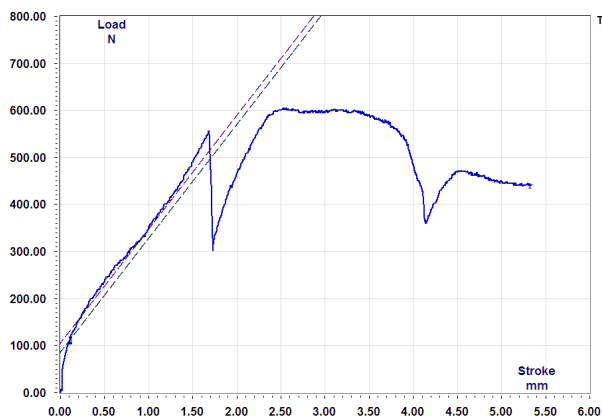


Figure 3: Tensile strength of polyester reinforced by 1wt.% CaCO_3

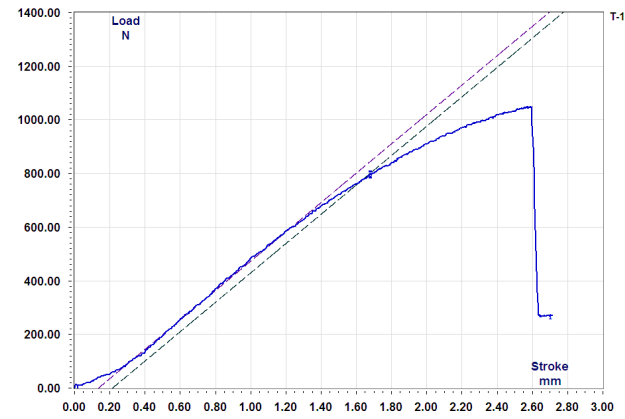


Figure 6: Tensile strength of polyester reinforced by 3wt.% particles of date seeds

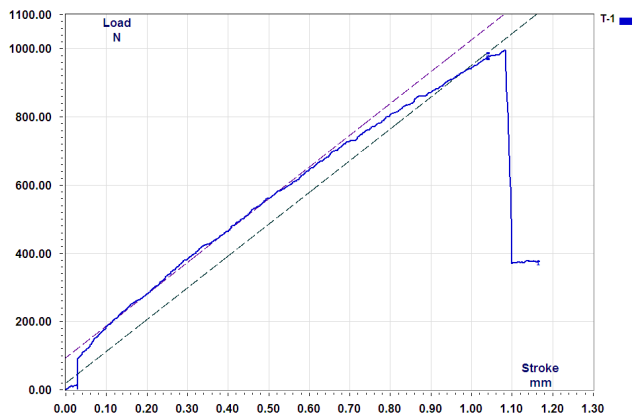


Figure 7: Tensile strength of polyester reinforced by 3wt.% CaCO_3

4. Conclusion

Improve tensile strength for samples containing particles of date seeds compared to that containing calcium carbonate, and the strength will increase as the as a percentage of particles of date seeds increases. Economically, it is possible to use particles of date seeds instead of synthesis compounds in many applications, due to the low cost of manufacturing and good mechanical properties. Treatment of negative effects of these wastes, by integrating them into applications that serve environmental sustainability.

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OPTIMISATION OF POWER CONSUMPTION OF ELECTRIC DRIVE WITH INDUCTION MACHINE THROUGH ONLINE PARAMETER IDENTIFICATION

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Abstract: This paper concerns the influence of the incorrect parameter values of the mathematical model of the induction machine to power consumption of the electric drive in case of Field Oriented Control (FOC). With the exception of stator resistance parameters for the model are not directly measurable and their values can change during the operation of the drive. One of the representations of mathematical model is presented and the influence of the wrong value of the rotor resistance is shown. Methods of obtaining the parameters are summarized and their benefits are presented compared to traditional laboratory tests. Online parameter identification methods are promising to allow the controller of the drive to respect the rotor resistance change and thus lower the power consumption of the drive.

Keywords: online parameter identification, induction machine, Field Oriented Control, power consumption

1. Introduction

Induction machines are the most common type of electromechanical converters in many of applications. One of these applications is their usage in drives of modern transportation vehicles ranging from high power freight locomotives to urban trolleybuses. Induction machines are robust with comparatively simple construction which results in low cost, low maintenance requirements and high reliability. These two properties are beneficial in harsh conditions that drive in an electric vehicle has to face. Their usage in this field has been allowed only by developments in power electronics and control that allowed changing the speed of the drive in full range through changing of the rotational magnetic field of the stator of the machine. This is so called Variable Frequency Drive (VFD). Sophisticated methods of control of the VFD (e.g. Field Oriented Control – FOC that is very common in electric drives of electric and traction vehicles) require a mathematical model of the induction machine to calculate the state of the machine and for this model, knowledge of certain parameters is needed. Improper values of these parameters can lead to confusion of the controller and the dynamic response of the drive or its efficiency can be lowered. Parameters of the machine vary for example with temperature. We can imagine that induction machine in an electric vehicle can face very different ambient temperatures throughout the year. It also heats up during operation. Methods of obtaining the machine parameters can thus improve the performance of the drive. In real operating conditions, it is preferable to use only the standard hardware of an electric drive to maintain robustness and reliability and optimal cost as well. Therefore it is not preferable to add any special measurement devices. This fact can bring an advantage that also existing electric drives can be enriched with this feature only by change of software in the controller.

1.1 Mathematical model of the induction machine

One of the most common representation of a model of the induction machine is so called equivalent circuit [1]. The machine is described by a schematic with certain components that states for required model parameters.

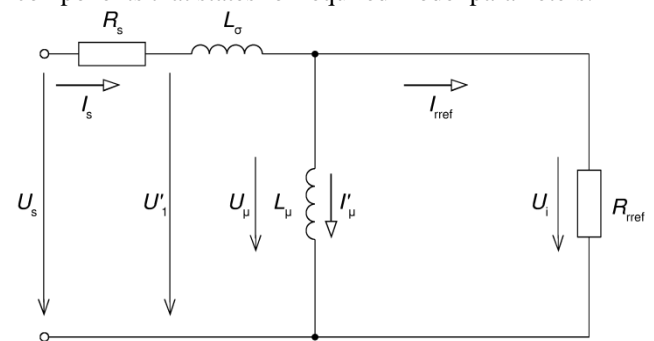


Figure 1: Inverse Γ equivalent circuit of a squirrel cage induction machine used for representation of a mathematical model

Figure 1 shows so called Inverse Γ equivalent circuit. Other common type is for example T equivalent circuit or Γ equivalent circuit. Inverse Γ equivalent circuit has an advantage that the currents in its two branches (I'_μ and I_{ref}) can be understood similarly as currents through excitation and anchor windings of a separately excited DC motor and thus the induction machine can be controlled similarly to the DC machine. It is called flux and torque component of the stator current. This attitude is used by the FOC.

Four electrical components can be seen in this Inverse Γ equivalent circuit which represents four parameters of the model. First resistance, R_s , represent electric resistance of the stator winding of the machine. Stray inductance of the winding is represented by L_σ . Useful magnetic field in the machine is represented by the magnetizing inductance L_μ . Resistance of rotor winding is represented by the resistance R_{ref} . Because the typical induction machine in the vehicle's drive is a squirrel cage machine that has only

six terminals of the three coils carried out, the stator resistance R_s is the only parameter that is directly measurable. For other parameters, more complicated methods have to be used.

1.2 Methods for machine parameters obtaining

Because of the fact, that most of the parameters are not directly measurable, only experimental methods are viable. These can be divided into following groups [2],[3],[4]:

- conventional methods
- on-site methods
 - offline parameter identification methods
 - online parameter identification methods

Under the term *conventional methods* we understand traditional laboratory tests which are so called no-load test, locked rotor test and conventional DC measurement of the stator resistance. These methods are giving good results, but their disadvantages are that the machine should be supplied from a sinusoidal voltage source (not from a classical semiconductor voltage source inverter) and that a special purpose jig have to be used to mechanically block the rotor to prevent its rotation.

On-site methods respond to these issues and they are designed to obtain the parameters on the place of the installation of the drive preferably with no special equipment. They can be useful for example in situations when the power converter and the induction machine are being supplied from different producers. These can be divided further into two subgroups – self-commissioning methods and commissioning methods. The main difference between these two groups is that the self-commissioning methods don't allow the drive to rotate so it can be executed even when the load is mechanically coupled to the drive. This benefit can be used in a manner that the parameter values can be obtained during breaks in operation. In case of an electric vehicle it can be executed when the vehicle is standing at a station so the changes of parameter values during operation can be respected.

Online parameter identification methods should gain the parameter values – or their changes – during the operation of the drive. They are useful for drives which have long continuous operation times. In case of electric or traction vehicles this can be a long distance train for example.

2 Influence of the incorrect values of parameters

According to [6], crucial influence comes from change of the rotor resistance R_{rref} . With the magnetizing inductance L_μ it forms a rotor time constant τ .

$$\tau = \frac{L_\mu}{R_{rref}} \quad (1)$$

It has been mentioned in chapter 1.1 that the current in the equivalent circuit divides into its two branches which is used for control. It is obvious from Figure 1 that if the resistance R_{rref} changes its value, the ratio of the currents in particular branches changes as well. As the winding of the machine is made from metal wires or rods (either copper or aluminium) it is obvious that the value of the resistance

would change with temperature. This change for a copper wire can be described by (2).

$$R_{\theta 2} = R_{\theta 1} \frac{235 + \theta_2}{235 - \theta_1} \quad (2)$$

where, θ_1 is any given base temperature, θ_2 is increased temperature, $R_{\theta 1}$ is a value of resistance within temperature θ_1 and $R_{\theta 2}$ is the increased value of the resistance within the increased temperature θ_2 . The constant 235 is the temperature parameter τ_{Cu} for copper [7] (we suppose copper in both stator and rotor winding which is nowadays common because of increasing the efficiency).

If we imagine that the ambient temperature and thus also the machine temperature is 20°C and that it heats up to 60°C, the resistance rises by 30% according to (2).

Situation of particular current components is shown in a vector diagram in Figure 2. The current flowing to the machine is the stator current I_s (see Figure 1) that divides into components I_{rref} and I_μ . In Figure 2, the index “1” is for values for starting temperature. The index “2” stands for some higher temperature. As the standard controller of a standard configuration of an electric drive with induction machine (Figure 3) can measure only the current flowing to the stator, the decomposition into flux and torque component can be done only based on parameter values.

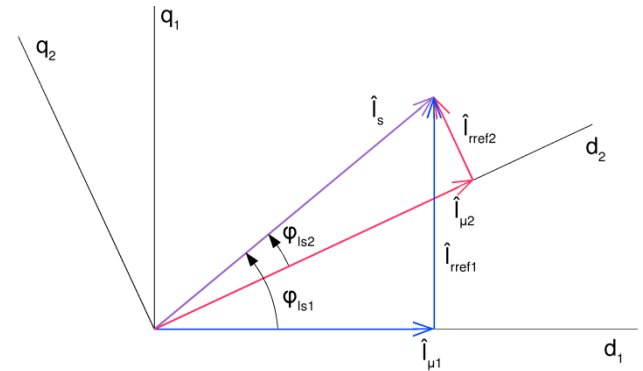


Figure 2: Vector diagram of rotor circuit currents for two different temperatures

Figure 2 shows that a controller without any correction of parameters assumes value of R_{rref} to be R_{rref1} that has been obtained e.g. by 20°C. So it decomposes the stator current into blue components designated $\hat{I}_{\mu 1}$ and \hat{I}_{rref1} . However the machine is already hot so the real components should be the red ones - $\hat{I}_{\mu 2}$ and \hat{I}_{rref2} . We can see that in this case, the real torque component is smaller than the controller assumes and that the real flux component is higher than assumed. This means that the torque produced is smaller than it should be and thus the rotational speed of the drive rises while the magnetic circuit of the machine is overexcited which is causing energy losses.

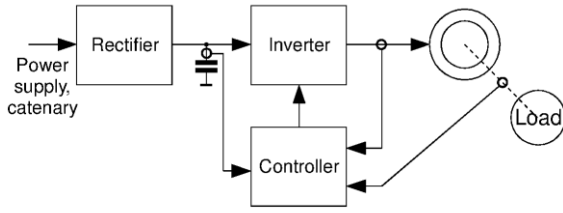


Figure 3: Typical configuration of electric drive with an induction machine of an electric vehicle

If the speed is falling, the controller increases the torque component which means that the stator current rises (Figure 4). This happens till the real torque component ($\hat{I}_{\text{ref}4}$) is as big as the original one assumed ($\hat{I}_{\text{ref}1}$).

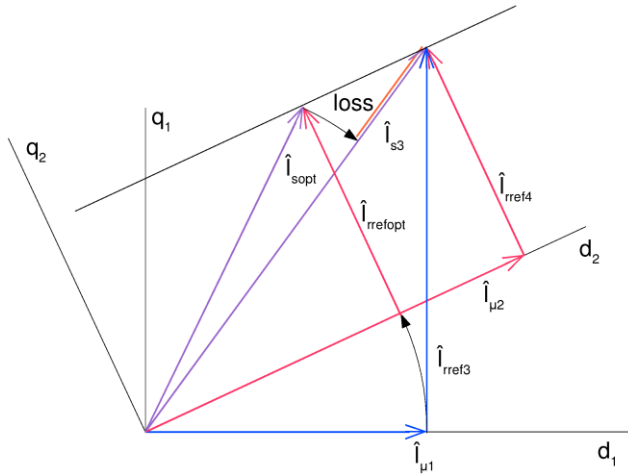


Figure 4: Vector diagram of rotor circuit currents after controller action with inappropriate rotor resistance value

However the assumed torque component ($\hat{I}_{\text{ref}3}$) corresponds to higher stator current \hat{I}_3 . If the controller could calculate with the real value of R_{ref} , it could decompose the stator current into optimal components $\hat{I}_{\text{ref}4}$ and $\hat{I}_{\mu1}$ which would result to smaller stator current \hat{I}_{sopt} for the same load and the same speed.

2.1 Consumption of the drive with incorrect rotor resistance value

If the rotor resistance would be 1,3 times higher than the controller assumes than the real torque component would be only 0,77 of the current assumed by the controller. According to vector calculation based on Figure 4, the current for the same torque would be 9,4 percent higher than the optimal value \hat{I}_{sopt} .

Respecting of this change can thus bring substantial benefits. However as stated before, direct measurement of the rotor resistance of a squirrel cage induction machine is not possible because it is enclosed. This could be different in case of wound rotor induction machine where rotor winding is carried out to slip rings. However this type of machine is not being used in the electric vehicles because slip rings represent a moving contact which lowers the reliability. Other possibility could be probably

measurement of the temperature of the machine. However, this would be very difficult because concerning the thermal model of the machine (Figure 5) there is a number of interfaces between different materials.

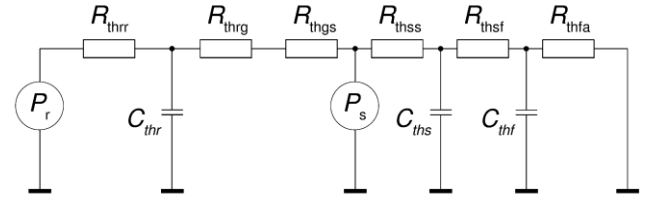


Figure 5: Simplified thermal model of an induction machine

In the model, there are two sources of heat: P_r is the source of heat in the rotor winding and P_s that is the source of heat in the stator winding. R_{thrr} is a rotor winding to rotor packet thermal resistance, C_{thr} is a thermal capacity of the rotor packet, R_{thrg} is rotor to air gap resistance, R_{thgs} is a gap to stator resistance, R_{thss} is stator winding to stator packet resistance, R_{thsf} is stator packet to machine frame resistance, C_{thf} and C_{thf} are thermal capacitances of stator packet and machine frame respectively. R_{thfa} is finally the frame to ambient thermal resistance. Even if the temperature would be measured in the stator winding and the model simplifies, it still remain not accurate enough. Thermal properties of the materials used would have to be known more precisely and the measurement would be dependent also on cooling of the machine.

So there is a field for some online identification method [5]. Several methods have been developed based on injected test signal, mathematical observers or Model Reference Adaptive System. Most preferable methods would be again those that need only the standard drive equipment as presented in Figure 3. Description of any of the methods would however overstep the range of this paper.

3. Conclusions

This paper concerns the influence of the improper values of the parameters of the mathematical model of the induction machine to overall power consumption of the electric drive e.g. in an electric vehicle. Modern electric drives use very often induction machines as their electromechanical converter because of its good ratio between price on one hand and reliability on the other hand. Precious methods of control of induction machines are however comparatively complex task with usage of a mathematical model of the machine. Due to machine construction, it is impossible to measure most of the parameters for the model so indirect methods have to be deployed. Two of the needed parameters are resistances that according to nature's laws change their resistance with temperature. During its operation, induction machine produces some waste heat that heats it up and changes the resistances. Paper shows crucial influence of the rotor resistance change to drive consumption under FOC control

method. Analysis shows that the by the temperature increase from 20°C to 60°C current consumption of the machine is theoretically 9,4 percent higher than it could be if the change of the resistance would be respected. Online parameter identification methods such as those based on injected test signal, mathematical observers or Model Reference Adaptive System could be used to respect this change and optimise the drive's consumption.

Acknowledgements

Research described in the paper was supervised by Prof. Ing. Jiří Pavelka, DrSc., FEE CTU in Prague and supported by the Grant Agency of the Czech Technical University in Prague, grant No. SGS17/089/OHK3/1T/13.

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FAULT TOLLERANCE COMMUNICATION IN CYBER-PHYSICAL SYTEMS

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Abstract: *Cyber-Physical Systems (CPS) are integrations of computation, networking, and physical processes. Embedded computers and networks(digital functions) monitor and control the physical processes(analog functions) [1], with feedback loops where physical processes affect computations and vice versa So we can say that we have a set of componants communicating together. Cyber-physical systems are increasingly used in life-critical applications, where the probability of catastrophic failure has to be kept below very low levels. Massive fault-tolerance has been used to mask failure to achieve such low levels. However, fault-tolerance is expensive. We argue here that the fault-tolerance needs of an application change depending on its current position in its state space and the range of control inputs that can be applied. We illustrate the applicability of such an approach using the simple Event-B model as a case-study, and discuss its potential benefits. Various kind of fault could arise during application. The fault-tolerance will allow an componant(node) to continue to function despite any faults that may arise during any conversation We propose formal method Event -B for such development.*

Keywords: *CPS, Event-B, Rodin, Refinement*

1. Introduction

In a fault-tolerant system, any component acting in this system should be able to overcome any possible failure which could prevent it from achieving its goals and hence the system's goals. If an componant is in failure in a cyber physical system, and if this failure is not originating from the componant's environment, then the componant will be able to prevent this failure from happening since it has the power to prevent things happening if they occur in its boundary. Moreover, if the failure is originating from the componant's environment, then the componant will quickly and effectively respond to that failure since componants are reactive. Furthermore, since componants are proactive, their behavior is directed by their goals. So, if an componant is in failure, then it could not achieve its goals. Hence, the system could not achieve its goal, so, componants must quickly and effectively respond to these failures in order to overcome them.

Fault-tolerance can be dealt with during either a methodological process [4] in which the fault-tolerance aspects are taken into account when designing the future system, or when using a pre-defined structure of the system so that the system adapts itself when failure occurs, or even by applying fault-tolerance to the infrastructure on which the CPS will be deployed.

Infrastructure faults are dealt with by adopting self-healing CPS. The CPS automatically detects, diagnoses, and repairs localized problems [2]. For example, solutions based on broker components allow to manage the system and detect its component failures and to manage the infrastructure failures such as network failures or machine crashes [3].

In this paper, we propose a formal method Event-B for case study development. We illustrate our proposal with the development of a simple communication model between componants in Event-B.

The model allow a component to continue function despite any faults that may arise in a particular conversation. We

select a paradigm to cop with situations when a participating componant stops responding or there are no available participants.

2. Rodin and Event-B

2.1 Event-B & Rodin [6,7]

Here, Event-B is introduced to extent understanding this project. The Event-B language is described in the next section by providing a relatively simple case study.

Also the Rodin tool is described to demonstrate how the tool-set can be used. Before starting explaining Event-B a number of concepts are introduced. Event-B is an evolved version of the B method [7]. Event-B language is for modelling and reasoning about complex and discrete systems [6]. The term proof obligation is mentioned in this section regularly. What is meant by a proof obligation is, a theorem that needs to be proved in order to verify the correctness of the model.

Event-B is a formal method with first-order logic and set theory as underlying mathematical notation.

There is a good tool support for Event-B through an Eclipse plug-in called Rodin. Rodin allows us to write the specifications and check their correctness;. When modelling with Event-B most of the proofs are proved automatically by Rodin, but there are certain cases where human interaction is necessary to complete the task of proving [7]. The proof obligation generator, generates a number of proof obligations some of which will be proved automatically by Rodin and some will need human intervention to be proved. In many cases the number of proof obligations can be quite large depending on the size of the project. Thus more human interaction is necessary and consequently more time is required to complete the modelling task. However, experiments indicate many cases in which based on experts guidance or personal experience, some proof obligations can be discharged following the same line of reasoning.

The use of models (or blue-prints) to speculate system properties and future capabilities is not a very common practice in the computer industry. Unlike other practices, such as mechanical or structural engineering where blue-prints are used to speculate the future system, such practices are rare in the computer science. In cases where there are blue prints for defining system more often the model is very close to executable code which is not the purpose of designing blue-prints. For example a blue-print of an engine does not have engine features but in computer science blue-prints such as UML have qualities in common with executable code. This relationship between models and executable code gives the impression to the engineers that modelling is another high level programming language. However, Event-B promotes an idea called refinement that a user should start from a very abstract model and, refine it to a better model. This could hide some of the complexities that had to be dealt with, in programming at an early stage to a later stage where the user understands the system more accurately.

When discussing modelling in Event-B, we are concerned about discrete models. A discrete model is made of a state with a number of variables and constants that represent some an abstraction of the real system that is being modelled [6]. Apart from the state there are operations that can take place under some conditions which can modify the state. These transitions are called events. Each event is made of guards (conditions that must hold in order to allow actions to occur) and actions (the way that variables can be modified as the result of the execution of the event). In order to be able to reason about the model, we need a certain number of invariants, which are conditions on variables that must always hold.

2.1.1 Refinement

Having a reasonable level of abstraction, that can take most of the facts about the real system into account, is a difficult task. In order to solve this problem, it is possible to design a model with a quite a high level of abstraction and as the design evolves, add more details to the model to reduce the level of abstraction. This concept is called refinement which is used in Event-B modelling. The analogy is that the deeper one goes into the design the more details should be revealed rather than providing all details at first. The advantage of refinement is that it makes designing a complex system relatively easier to comprehend [6]. The most important point about the idea of refinement that the user is directed of focusing on how to solve the problem, the user is directed to focus on what the system is. Thus the user understands the system better before starting to expand the system. Also it results in less complex proof obligations as the complexity is handled by abstraction [7].

2.1.2 Decomposition

By just applying refinement alone the problem of complexity cannot be solved. Because when a model is large, refining it over and over results in a large model which would be very difficult to work with as a whole. So there is a need for a method to divide the model into

smaller pieces in a systematic way. This method is called decomposition [6]. The result of performing decomposition is that the complexity of the model will be reduced and allow the designers to concentrate on smaller parts first before modeling the system as a whole.

2.1.3 Generic Development

The defined model using refinement and decomposition can be defined by using carrier sets (a set containing elements of a particular structure as opposed to a relation) and constants. This generic model can then be developed with some mathematical theory such as set or group theory.

3. Fault tolerance in node interaction

Fault-tolerance in CPS requires that the system can cope with faults in communication and faults in the behaviour of the distributed components. The system must be able to continue to function if there is a failure in communication between nodes or if a node fails and ceases to communicate. The system must also be able to cope if a node in the system is prevented from completing a task it has been delegated.

The fault-tolerance described above ensures that an component will continue to be able to provide a service regardless of any failures in a particular interaction. A conversation between two components may lead to the failure of an component to fulfill a goal, but that component will still be able to perform its role in another conversation. Paradigm for fault-tolerance at the conversation level, e.g. having a replicated component that will continue to operate in place of a failed component, is a possible subject for future work

4. Fault-Tolerance Paradigm for Event-B Models

Fault-tolerance is not necessarily a feature of a system that is appropriate to model in detail at the most abstract level. It is often a part of the communication infrastructure or a component of individual nodes and, therefore, will be modelled in refinement. The paradigm presented in this paper include an example of Event-B specification from a refinement model.

5. Case study

5.1 Initial Development Chain in Event-B

To present the fault-tolerance paradigms a simple example of the CPS Net is used.

We use a simple Event-B model as a case study to represent the fault-tolerance paradigm.

The development presented here includes an abstract model and one refinement model.

The abstract model models conversations between components and the refinement introduces the components involved in the conversation to the model. The abstract model shown in Figure 3 includes four variables that represent states that the conversation will move through. The variables are not modelled as disjoint sets. Instead, the order of the conversation is enforced by specifying the variable for each state as a subset of the previous state. The *cfp* variable represents the state after a call for proposals

has been initiated by an node. The responded variable represents the participating nodes responding to the call for proposals. The selected variable represents the initiator choosing one or more proposals to accept. The informed variable models the state where the selected nodes have informed the initiator of the successful completion of the task. The events of the abstract machine move the conversation through the different states as the conversation progresses. The callForProposals event adds a conversation to the cfp state. The respond event takes a conversation that is in the cfp state and puts it in the responded state. The select event takes a conversation that is in the responded state and adds it to the selected state. The inform event takes a conversation that is in the selected state and adds it to the informed state to complete the conversation.

The refinement of the abstract model incorporates the interaction between the nodes that are involved in the conversation. The invariants for the refinement model are shown in Figure .4. The variables of the model represent messages being sent and received by the nodes in the system. The variables that represent a message being sent are suffixed with an 'S' and those that represent a message being received are suffixed with an 'R'. The conversation is between multiple nodes and so the variables are specified as relationships between a set of conversations and a set of nodes. For example $c \rightarrow a \in cfpS$ means that node a has been sent a call for proposals message within conversation c . $c \rightarrow a \in cfpR$ means that node a has received a call for proposals message within conversation c . A message must be sent before it can be received and this is modelled by specifying a subset relationship between the sent variables and the received variables, e.g. $(cfpR \subseteq cfpS)$. Some of the variables from the abstract machine are replaced by the message variables in the refinement. The last two invariants are the gluing invariant and specify the refinement relationships between the abstract variables that represent the state of the conversation and the concrete variables that model messages being broadcast.

The events of the refinement are shown in Figure 5, 6. The send *Cfp* event refines the abstract callForProposals event. It models the broadcast of a call for proposals message from node a to all other nodes ($NODE \setminus \{a\}$) by a set of relationships, as, between a conversation and the nodes and adds it to the *cfpS* state. The receive *Cfp* event models a message being received by an node by selecting a relationship $c \rightarrow a \in cfpR$ that is in the *cfpS* state and adding it to the *cfpR* state. The sendProposal event can occur when there is a relationship in the *cfpR* state and the proposal is sent when

$(cfpS, proposeS, acceptS, rejectS, informS$
 $CONVERSATION \leftrightarrow NODE)$

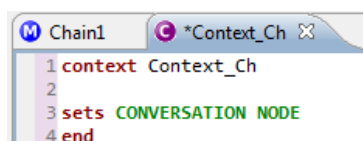


Fig. 1: Context – project Initial_Chain

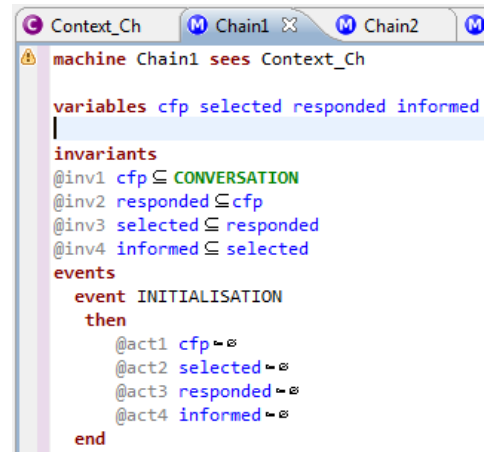


Fig. 2: Invariant and initialization – project Initial_Chain1

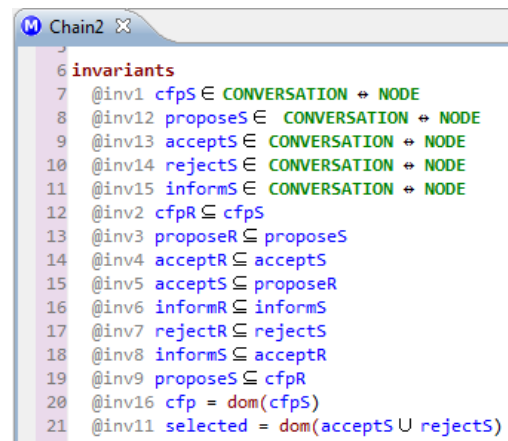


Figure .3: Invariants of the Refinement of the Initial Chain

```

event CallForProposals
  any c
  where
    @grd1 c ∈ CONVERSATION
    @grd2 c ≠ cfp
  then
    @act1 cfp ← cfp ∪ {c}
  end

event select
  any c
  where
    @grd1 c ∈ responded
    @grd2 c ≠ selected
  then
    @act1 selected ← selected ∪ {c}
  end

event respond
  any c
  where
    @grd1 c ∈ cfp
    @grd2 c ≠ responded
  then
    @act1 responded ← responded ∪ {c}
  end

event inform
  any c
  where
    @grd1 c ∈ selected
    @grd2 c ≠ informed
  then
    @act1 informed ← informed ∪ {c}
  end
end

```

Figure 4: Abstract Machine of the Initial Chain

```

events
event INITIALISATION
  then
    @act1 cfpS ← ∅
    @act2 cfpR ← ∅
    @act3 proposeS ← ∅
    @act4 proposeR ← ∅
    @act5 acceptS ← ∅
    @act6 acceptR ← ∅
    @act7 rejectS ← ∅
    @act8 rejectR ← ∅
    @act9 informS ← ∅
    @act10 informR ← ∅
    @act11 selected ← ∅
    @act12 cfp ← ∅
    @act13 responded ← ∅
    @act14 informed ← ∅
  end
end

```

Fig. 5: Initialization variables – first refinement

```

44 event sendCfp refines CallForProposals
45   any c as a
46   where
47     @grd1 c ∈ CONVERSATION
48     //@grd2 c ≠ dom(cfpS) // differently
49     @grd3 as ∈ CONVERSATION ⊕ NODE
50     @grd4 a ∈ NODE
51     @grd5 dom(as) = {c}
52     @grd6 ran(as) = NODE \ {a}
53     //@grd7 c ≠ cfp //insert manually, differer
54   then
55     @act1 cfpS ← cfpS ∪ as
56     @act2 cfp ← cfp ∪ {c} //insert manually
57   end
58
59 event sendProposal
60   any c a
61   where
62     @grd1 c → a ∈ cfpR
63     @grd2 c → a ≠ proposeS
64   then
65     @act1 proposeS ← proposeS ∪ {c → a}
66   end
67
68 event responded1 refines respond
69   any c
70   where
71     @grd1 c ∈ dom(proposeS)
72     @grd2 c ≠ responded
73   then
74     @act1 responded ← responded ∪ {c}
75   end
76
77 event receiveAccept
78   any c a
79   where
80     @grd1 c → a ∈ acceptS
81     @grd2 c → a ≠ acceptR
82   then
83     @act1 acceptR ← acceptR ∪ {c → a}
84   end
85
86 event sendInform
87   any c a
88   where
89     @grd1 c → a ∈ acceptR
90     @grd2 c → a ≠ informS
91   then
92     @act1 informS ← informS ∪ {c → a}
93   end
94
95 event informed1 refines inform
96   any c
97   where
98     @grd1 c ∈ dom(informR)
99     @grd2 c ≠ informed
100   then
101     @act1 informed ← informed ∪ {c}
102   end

```

```

104 event receiveCfp
105   any c a
106   where
107     @grd1  $c \mapsto a \in \text{cfpS}$ 
108     @grd2  $c \mapsto a \notin \text{cfpR}$ 
109   then
110     @act1  $\text{cfpR} \leftarrow \text{cfpR} \cup \{c \mapsto a\}$ 
111   end
112
113 event receiveProposal
114   any c a
115   where
116     @grd1  $c \mapsto a \in \text{proposeS}$ 
117     @grd2  $c \mapsto a \notin \text{proposeR}$ 
118   then
119     @act1  $\text{proposeR} \leftarrow \text{proposeR} \cup \{c \mapsto a\}$ 
120   end
121
122 event select refines select
123   any c as ar
124   where
125     @grd1  $c \in \text{dom}(\text{proposer})$ 
126     @grd2  $c \notin \text{dom}(\text{accepts})$ 
127     @grd3  $c \notin \text{dom}(\text{rejects})$ 
128     @grd4  $as \subseteq \{c\} \wedge \text{proposer}$ 
129     @grd5  $ar = \{c\} \wedge \text{proposer} \setminus as$ 
130     @grd6  $c \in \text{responded}$ 
131   then
132     @act1  $\text{accepts} \leftarrow \text{accepts} \cup as$ 
133     @act2  $\text{rejects} \leftarrow \text{rejects} \cup ar$ 
134     @act3  $\text{selected} \leftarrow \text{selected} \cup \{c\}$  //inse
135   end
136
137 event receiveReject
138   any c a
139   where
140     @grd1  $c \mapsto a \in \text{rejects}$ 
141     @grd2  $c \mapsto a \notin \text{rejectR}$ 
142   then
143     @act1  $\text{rejectR} \leftarrow \text{rejectR} \cup \{c \mapsto a\}$ 
144   end
145
146 event receiveInform
147   any c a
148   where
149     @grd1  $c \mapsto a \in \text{informS}$ 
150     @grd2  $c \mapsto a \notin \text{informR}$ 
151   then
152     @act1  $\text{informR} \leftarrow \text{informR} \cup \{c \mapsto a\}$ 
153   end
154 end

```

Fig. 6: Events –first refinement

```

M Time_out_abstract_event X M Time_o
1 machine Time_out_abstract_event
2 sees Context_Ch
3
4 variables failed cfp responded
5
6 invariants
7   @inv1  $\text{cfp} \subseteq \text{CONVERSATION}$  // i
8   @inv2  $\text{failed} \subseteq \text{cfp}$ 
9   @inv3  $\text{responded} \subseteq \text{cfp}$  // inse
10
11 events
12 event INITIALISATION
13   then
14     @act1  $\text{failed} \leftarrow \emptyset$ 
15     @act2  $\text{cfp} \leftarrow \emptyset$ 
16     @act3  $\text{responded} \leftarrow \emptyset$ 
17   end
18
19 event callForProposals
20   any c
21   where
22     @grd1  $c \in \text{CONVERSATION}$ 
23     //@grd2  $c \notin \text{cfp}$  // differently
24   then
25     @act1  $\text{cfp} \leftarrow \text{cfp} \cup \{c\}$ 
26   end
27
28 event failure
29   any c
30   where
31     @grd1  $c \in \text{cfp}$ 
32     @grd2  $c \notin \text{failed}$ 
33     @grd3  $c \notin \text{responded}$ 
34   then
35     @act1  $\text{failed} \leftarrow \text{failed} \cup \{c\}$ 
36   end
37
38 event respond
39   any c
40   where
41     @grd1  $c \in \text{cfp}$ 
42     @grd2  $c \notin \text{responded}$ 
43   then
44     @act1  $\text{responded} \leftarrow \text{responded} \cup \{c\}$ 
45   end
46 end

```

Fig. 7: Abstract Machine of the Time out


```

1 machine Time_out_concrete_event //
2 refines Time_out_abstract_event sees Context_Ch
3
4 variables beforeTimeout cfpS afterTimeout proposeRD proposeS
5 rejectSD rejectRD failedCfp proposeR failed cfp responded
6
7 invariants
8   @inv1 cfpS ∈ CONVERSATION ⇨ NODE //send manual
9   @inv2 proposeS ∈ CONVERSATION ⇨ NODE //send manual
10  @inv3 beforeTimeout ⊆ dom(cfpS)
11  @inv4 afterTimeout ⊆ beforeTimeout
12  @inv5 proposeRD ⊆ proposeS
13  @inv6 rejectSD ⊆ proposeRD
14  @inv7 rejectRD ⊆ rejectSD
15  @inv8 failedCfp ⊆ afterTimeout
16  @inv9 proposeR ⊆ proposeS //send manual
17  @inv10 failedCfp ∩ dom(proposeR) = ∅
18  @inv11 failed = failedCfp

```

Fig.8: Invariants – Time out first refinement

```

20 events
21 event INITIALISATION
22 begin
23   @act1 cfpS = ∅
24   @act2 proposeS = ∅
25   @act3 beforeTimeout = ∅
26   @act4 afterTimeout = ∅
27   @act5 proposeRD = ∅
28   @act6 rejectSD = ∅
29   @act7 rejectRD = ∅
30   @act8 failedCfp = ∅
31   @act9 proposeR = ∅
32   @act10 failed = ∅
33   @act11 cfp = ∅
34   @act12 responded = ∅
35 end
36
37 event sendCfp refines callForProposals
38 any c as a
39 where
40   @grd1 c ∈ CONVERSATION
41   // @grd2 c ∉ dom(cfpS) // differently Def
42   @grd3 as ∈ CONVERSATION ⇨ NODE
43   @grd4 a ∈ NODE
44   @grd5 dom(as) = {c}
45   @grd6 ran(as) = NODE \ {a}
46   // @grd7 c ∉ cfp // send manual // different
47 then
48   @act1 cfpS = cfpS ∪ as
49   @act2 beforeTimeout = beforeTimeout ∪ {c}
50   @act3 cfp = cfp ∪ {c} // send manual
51 end

```

Fig. 9: Initialization and event - Time out, first refinement

```

53 event deadline
54 any c
55 where
56   @grd1 c ∈ beforeTimeout
57   @grd2 c ∉ afterTimeout
58 then
59   @act1 afterTimeout = afterTimeout ∪ {c}
60 end
61
62 event sendReject
63 any c a
64 where
65   @grd1 c ⇨ a ∈ proposeRD
66   @grd2 c ⇨ a ∉ rejectSD
67 then
68   @act1 rejectSD = rejectSD ∪ {c ⇨ a}
69 end
70
71 event failToPropose refines failure
72 any c
73 where
74   @grd1 c ∉ dom(proposeR)
75   @grd2 c ∈ afterTimeout
76   @grd3 c ∉ failedCfp
77   @grd4 c ∈ cfp //insert manual
78   @grd5 c ∉ responded //insert manual
79 then
80   @act1 failedCfp = failedCfp ∪ {c}
81   @act2 failed = failed ∪ {c} //insert m
82 end
83
84 event receiveProposal
85 any c a
86 where
87   @grd1 c ⇨ a ∈ proposeS
88   @grd2 c ⇨ a ∉ proposeR
89   @grd3 c ∉ afterTimeout
90 then
91   @act1 proposeR = proposeR ∪ {c ⇨ a}
92 end
93
94 event receiveProposal2
95 any c a
96 where
97   @grd1 c ⇨ a ∈ proposeS
98   @grd2 c ⇨ a ∉ proposeR
99   @grd3 c ⇨ a ∉ proposeRD
100  @grd4 c ∈ afterTimeout
101 then
102   @act1 proposeRD = proposeRD ∪ {c ⇨ a}
103 end
104
105 event receiveReject
106 any c a
107 where
108   @grd1 c ⇨ a ∈ rejectSD
109   @grd2 c ⇨ a ∉ rejectRD
110 then
111   @act1 rejectRD = rejectRD ∪ {c ⇨ a}
112 end
113
114 event respond extends respond
115 end
116 end

```

Fig. 10: Events – Time out, first refinement

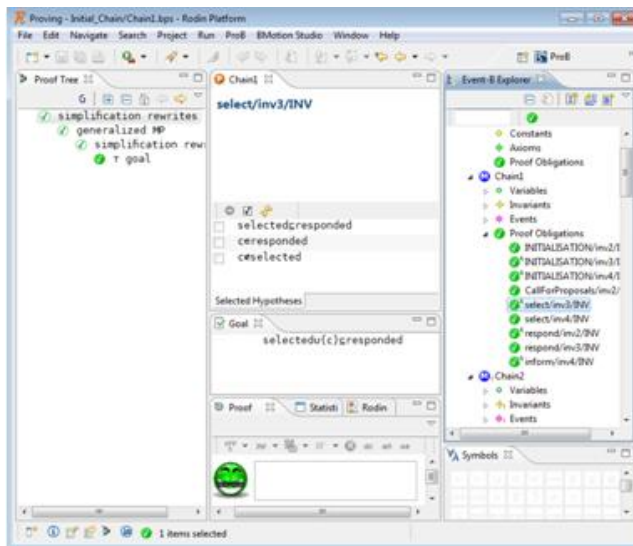


Fig. 11: All Proving discharge – abstract Chain1

6. Conclusions

In this paper, we outlined the design space of a fault tolerant CPS application to ensure reliable operations in case of components time delay which hinder system success. As a use case, we did not use redundancy to mitigate faults. Instead we have developed a paradigm to act.

Our results indicate that even for small examples the design space is complex and the answer for the best system setup is non-trivial, in particular when taking into account the aspects such as cost or required precision. Therefore, it is mandatory for a system designer to be able to analyze this design space efficiently. This requires the ability to set up systems with a welldefined fault model and flexible evaluation logic.

Applying the Timeout paradigm will add a deadline to the model and events to allow the deadline to be enforced.

This paradigm may be required to be applied several times in a complex interaction. A collection of paradigms can be applied to an Event-B refinement chain. Applying paradigm to the initial chain produces Chain2 and applying paradigm to Chain2 produces Chain3. Paradigm j could be applied before Paradigm i to produce the same result (Chain 3). A possible direction for future work would be to find a method to prove the orthogonality of the paradigms.

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Session: Pedagogy, Psychology

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Abstract: *The article deals with sexual education in Czech and German schools. It offers a brief overview of the inclusion of sexual education in education in Germany and the Czech Republic, and at the same time it uncovers similarities and differences in the concept of sexual education.*

Keywords: *sex education, education*

1. Introduction

Sexual education is a highly discussed issue and its concept varies considerably from country to country. The definition of sexual education is not entirely unambiguous and there is more. Let me mention Smolikova at least (10): "Sexual education is an education for partnership, marriage and parenthood in the sense that it is primarily a prosocial education (education for social relations, relations between people) based on sensitivity, respect and responsibility in relationship to other people. There is a great difference between the concepts of sexual education and sexual instruction. Lesson is in itself, small but important part of complex sexual education, in which it is more - to bring a positive value point into the child's life" [10].

Sexual health is defined by the World Health Organization as: "The summary of the physical, emotional, intellectual and social aspects of a person as a sexual being that enriches the personality, improves relationships with people and develops the capacity of love." In the paper, we focus more closely on sexual education within the German and Czech educational system [3,5].

2. Sex Education in Germany

Among the main aspects of sexual education, according to German experts are: the aspect of fertility - brings the primary aspect of sexual education for children and adolescent. Pupils should know how their body and opposite sex works. Next, the aspect of the relationship in which children are key to learn to talk about partnership, love, etc. The Aspect of Lust - the need to open the question of lust to the other person and not to forget the masturbation. It also includes the aspect of identity, self understanding, awareness, etc., and last but not least, the communication aspect - beside non-verbal communication, verbal communication is also very important, since it is crucial to be able to talk about your wishes, problems and desires [2].

In the general note on the Framework Program for Education in Berlin Schools of 2001, they focus on aspects of sex education in school. There is an aspect of speech, sex roles, homosexuality, different cultures, disabilities, physical and sexual violence all related to sex education. Spoken speech is perceived as the most important resource in teaching as it helps to understand the surrender. The form of sexually differentiated sexual

education then offers a chance to strengthen the sexual identity of children and adolescent. Also, the topic of homosexuality should not be taboo because at least 5% of young people are homosexual - it is therefore, more than desirable to engage in sexual education with homosexual couples, homosexual parents, and similar topics. Sexuality together with partnership forms the fundamental part of being a human existence across cultures. However, to foster sexual education for all involved it is necessary to create an atmosphere of mutual respect and recognition [2,9,1].

In 2002, at the Conference of the Ministry of Culture of the Federal Republic in Germany, recommendations for sexual education were made in connection with the influence of social development in sexual education. This is meant to be a strong effort to equalize girls and women in society, to normalize the lives of the disabled, to increase violence against children, to increase HIV infected people, etc. The recommendations that were made consist of three parts - tasks, guidance and assistance to teachers. In terms of tasks it is very important that the sexual education should be referred to as a part of the general education for pupils in which the pupils deal with questions of their own, choice of partner, family, human sexuality, etc. The aim of this point is to develop the capacity of love and communication in children. Conducting classes of sexual education must not only be sufficiently professional but also methodologically thought out. The key method is an interview method. Now, let's say what specific knowledge the child should have in each age range. By the end of the first grade the pupil should know the gender differences and maternity issues. In the sixth grade pupils should know how fertilization, pregnancy and childbirth occurs, physical and psychological changes occurring during puberty, the emergence of friendship. By the end of the ninth grade (10th grade), pupils should have more information on fertilization, pregnancy and childbirth, and then address the sexual problems of adolescents (such as masturbation, premature sexual activity,...), social and legal issues (betrothed, marriage, Family, rights and responsibilities of parents), social-ethical issues (promiscuity, prostitution, homosexuality), criminal problems (abortion, prostitution, sexual illness). In the tenth to thirteenth grade, knowledge

of the above should be deeper with an emphasis on ethical, legal and social issues. [2,9, 1].

2.1 Family and school cooperation

In Germany, there is an important moment of family and school collaboration. A very good chance and also a task for the family and school is to lead children with an open dialogue, discuss and know what their child specifically teaches in sexual education. The teacher has to inform them about it. Parents can then prepare the child for a topic that they will be discussing at home or discuss vital moments from the area or what their child has learned at school. However, parents do not have the right to free their child from sexual education. For many parents who are not of German origin, it is very difficult to understand because sexuality is something completely intimate for them and they believe that an early sexual education can result in premature sexual activity from their children. We have to take into account that for example, in Berlin, we usually encounter multicultural schools where roughly 20% of teachers and pupils are not of German origin. This leads to a variety of religious, ethical and cultural conflicts and it is therefore very difficult to lead a sexual education lesson [4].

3. Sex Education in Czech education

In the Czech Republic as stated by Šulová [10], we can find three concepts of sexual education. These concepts differ in the approach to sexual education. One emphasizes the medical approach, the other is a teaching approach. The third emphasizes the psychological approach. E.g. according to Pondělíčková-Mašlová [6], whose concept is the following age categories: 1-4. Years, 5-6. Years and 7th- 8th. In the first two concepts, emphasis is placed on the biological component of human sexuality. The teaching concept is based on a holistic concept of health so that individuals are clear of relationships between physical, mental, spiritual and social health. The goal is also the activity of not only the teacher but also the pupils. The deputy of the psychological concept is Šulová, which should be give pupils the opportunity to have four two-hour topics falling into their obligatory tutor. [11].

At present, the curriculum system in the Czech Republic is the following: The National Education Program together with the Framework Educational Programs (RIPs), represents the state level within the system. The National Education Program deals with the definition of initial education as a whole and the FEP provides binding education frameworks in individual stages, ie pre-primary, primary and secondary education. There is a Framework Educational Program for Preschool Education (RVP PV), Framework Educational Program for Basic Education (RVP ZV), Framework Educational Program for High school Education (RVP GV), Framework Educational Programs for Secondary Vocational Education (RVP SOV) and other RVP A curriculum for elementary arts education, a Framework Educational Program for Language Education and possibly another). Implementation of education at specific schools are described in so-called School Education Programs (SEPs).

As we will continue to focus on one of the educational areas of the RVP ZV, we will briefly characterize the FEP. First of all, we should recognize that they are the creation of a so-called new education strategy that emphasizes the development of key competencies, defined as "a set of knowledge, skills, abilities, attitudes and values important for the personal development and application of each member to society" [7].

These are the competencies to learn, to solve the problem, communicative, working, social, personal and civic. Its aim is to bring graduates from schools who will have the desire to continue learning and improving their knowledge and skills. FEPs also clearly defines what knowledge pupils should have at the given stages. Specifically, the RVP ZV, of course, builds on RVP PV, there are clearly expected outputs and curriculum, ie the content of education. They emphasize with the complexity in the implementation of education and also include cross-cutting themes. The key competences and their attained level in the graduates are specified in the RVP ZV. It consists entirely of the following educational areas: Language and Communication, Mathematics and its Applications, Information and Communication Technologies, Men and their World, Men and Society, Men and Nature, Art and Culture, Human and Health, Men and the World of Work and Complementary Educational fields (another foreign language, ethics, etc.).

3.1 Sexual education as a part of health education

Sexual education is included in the thematic area of Human and health, specifically in the education field of health education. Let's first characterize the Human and Health area. Health is of course a whole range of external and internal factors, such as a lifestyle, health prevention, safety, environmental quality as well as interpersonal relationships. The task of the Human and Health education area is to provide pupils with suggestions to help them to be able to influence their level of health by their behavior and activities, etc. Pupils should be aware of the value of health, the sense of prevention after completing this educational area. They should also understand how many illnesses or health damage can be fatal. Pupils should also acquire and create their own healthy system of values and attitudes, learn the responsibility for their health, learn to respond and decide in situations that in some way threaten their health. Emphasis is placed on the practical skills that are practiced by the frequent use of model situations. Within the subject of Health Education itself, pupils gain knowledge about a person in connection with the preventive protection of their own health. Pupils learn their health (psychological, physical and social) not only to protect, but also to further develop it and be fully responsible for your health. It builds on the educational area Men and their world, which is realized at the first level of basic education [7].

For each educational field (subject taught), the RVP at the beginning of the subject is listed as the expected outcome, respectively the learning objectives that each pupil should master. Expected outcome related to sexual education includes the following: "respects accepted rules of

coexistence between classmates and other peers and contributes to the formation of good interpersonal relationships in the community; respects changes in adolescence, responds appropriately; Cultivates in a cultivated way to the opposite sex; respect the importance of sexuality in relation to health, ethics, morality and positive life goals; Understand the importance of restraint in adolescence and responsible sexual behavior; Apply adequate behavior and protection in model situations of threat, danger and emergencies " [8].

In addition to the educational objectives, we can also find a curriculum in the Framework of Educational Program. Within education Health is divided into six areas and sex education is included in each of them. These areas are - relationships between people and forms of coexistence, changes in human life and their reflection, a healthy way of life and health care, health threats and their prevention, value and promotion of health, personality and social development [8].

4. Conclusion

In conclusion, the issue of sexual education is very complicated across all countries. In Germany nor in the Czech Republic we can not find a uniform view of the content and form of sexual education at school. However, it is necessary that both countries realize the importance of family and school collaboration, since they are both complementary.

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EXPLORING THE RELATIONSHIPS BETWEEN AUTISTIC TRAITS AND SUBJECTIVE WELL-BEING AMONG WOMEN AND MEN IN A NON-CLINICAL POPULATION

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Abstract: *Autistic traits in a typical, non-clinical population there are characteristics of Autistic Spectrum Disorder (ASD), but with a mild intensity and often an atypical pattern. The concept of a broader autistic phenotype (BAP) is also used, which refers to people related to someone diagnosed with autism spectrum disorder. In recent years, the interest of researchers in autistic features in non-clinical populations and their correlates, as well as health, psychological, educational and social implications has increased, especially in possible differences connected to sex and gender factors. The article presents exploratory research on the relationship between autistic traits and subjective well-being in men and women in the non-clinical population. There has been investigated potentiality of different patterns of relationships between autistic traits and subjective well-being among women and men in non-clinical population and this implicit assumption have been confirmed.*

Keywords: *autistic traits, broader autism phenotype (BAP), subjective well-being, gender/sex, adulthood*

1. Introduction

In autism literature, autistic features are understood as personality or behavioral traits that are characteristic of autism spectrum disorders, but with less intensity. They may be too low to be symptomatic in clinical sense, although its configuration may represent the diagnostic pattern in the clinical sense [1][2]. While the symptoms of autism may be manifold, from deep to light or even mild, called subclinical, the term "autistic traits" refers to people without diagnosis in the clinical sense, but with a similar personality pattern, often with family history of autism spectrum disorder (ASD). Other terms commonly used in the literature are broad phenotype of autism, or broad/broader autism phenotype (BAP) [3][4]. Such features are present within a typical, "normal", nonclinical population, without any diagnosis of autism or other developmental disorders in citizens and their family [5][6][7]. Characteristic for individuals with personality with ASD or BAP traits is having peculiarities that can be demonstrated by the AQ test by S. Baron-Cohen and his colleagues [5]. These features include domains of difficulties named as: *Social Skills, Attention Switching, Attention to Details, Communication and Imagination*. The studies conducted by different authors show the presence of individuals characterized by these characteristics in typical non-clinical or non-clinical populations across different countries and nations [8]. With the progressive increase in autism in the population, the interest in its causes and the nature, is growing. There is a gradual increase in the number of exploratory studies on relationship between autistic features and personality, as well as between mental health and well-being [9][10][11][12][13].

2. Autism, autistic traits and gender/sex issues

Autistic spectrum disorders (ASD) or - as some authors prefer to use the term - autistic spectrum condition (ASC)

[14] are one of the most common neurodevelopmental conditions, affecting approximately 0.6 to 1.57% of the general population [15]. Within them, males outnumber females with a sex ratio of 4.3:1 [16], but the question about sex/gender differences existing in autism is still unanswered. According to distinguish authors [17] there are more anecdotal descriptions about behavioral differences between women and men in autism in the core domains of autistic spectrum disorder and condition. In domain of social interactions, the characteristics more often present in female than men are: greater awareness of the need for social interaction, greater desire to interact with others, passivity in contacts (image of a "loner", often perceived as "just being shy"), one or few close friendships and tendency to be "mothered" in a peer group in primary school but often bullied in secondary school. There are some strategies developed by girls or women develop that may have compensatory effect as tendency to imitate others (copy, mimic, or mask) in social interactions, which may be exhausting. Women have in general a greater than men tendency to "camouflage" difficulties by masking and/or developing compensatory strategies. In domain of communication, girls have better linguistic abilities developmentally, than boys and are better in imagination. They tend to develop fantasizes and escapes into fiction and pretend play, but are prone to being nonreciprocal, scripted, and overly controlled, similarly, how boys conduct. In contrary to boys/men, girls and women with autistic pattern of functioning, in their restricted interests they tend to involve people/animals rather than objects/things (e.g., animals, soap operas, celebrities, pop music, fashion, horses, pets, and belles-lettres), for what these tendencies and behaviors may be less recognized as related to autism. Additionally, female pattern of autistic functioning includes such traits as tendency to be perfectionistic, being very determined, tendency to be controlling in play with peers, high

(passive) demand avoidance and tendency to have episodes of eating problems (especially anorectic). Nonetheless, psychosocial camouflage is a tendency observed in both sexes, although patterns of behavior may vary between men and women, and women may use them more often and perhaps more effectively [18]. It is important to establish how sex influences the presentation of ASD because this has implications for understanding the biology and psychology of ASD in both groups for better service and clinical care designing. One of the aim of studies on sex/gender differences in autism is to comparison of symptom profiles in men and women [14]. The aim of research presented in this paper is to explore relations between autistic traits and subjective well-being in women and men from non-clinical population, with their different levels of autistic pattern of functioning characteristics, from absolutely non-autistic to those who represent the so-called broad phenotype of autism. The author formulated the following research questions: 1. Are there differences between women and men in terms of intensity of autistic features in both sexes? 2. Are there relationships between gender and subjective well-being, if so, what their nature is? 3. Are there links between the intensity and nature of autistic traits and subjective well-being, if so, how they manifest in women and men? 4. Could we suppose the different patterns of being well and feel well and different regulation of adjustment in men and women according to autistic patterns of their functioning?

3. Methods

Participants. 133 women and 133 men were randomly selected from a database of the participants, who agreed to take part in the study. The subjects were aged from 17 to 81 years and lived in Upper Silesia Region in Poland.

Measures. Autistic traits were measured with *Autism-Spectrum Quotient (AQ)* developed in 1993-2001 by Baron-Cohen and his colleagues from Autism Research Center, University of Cambridge, UK [5] in Polish adaptation in 2010, by Ewa Pisula from Faculty of Psychology of Warsaw University [19]. This self-report questionnaire consists of 50 items-sentences, that allow the subject to indicate "definitely agree", "slightly agree", "slightly disagree" or "definitely disagree". Approximately half the questions are worded to elicit an "agree" response from individuals without autistic traits, and half to elicit a "disagree" response. The subject scores one point for each question which is answered autistic-diagnostically either slightly or definitely. The questionnaire lets to calculate the general AQ score as well as scores for five different domains associated with the autism spectrum and representing different kinds of difficulties and deficits in areas: *Social skills*; *Communication skills*; *Imagination*; *Attention to detail*; and *Attention switching* (level of rigidity and tolerance of change). A self-report, single-item and 5-point response scale there was ordered to participants as a measure of *Sense of happiness* (acronym: *Happy*) Life satisfaction was measured by *Satisfaction With Life Scale* (SWLS), a 5-item, 7-point Likert response format scale developed by E. Diener and colleagues [20][21] in Polish version and adaptation [22]. Hope was measured with

Adult Hope Scale (AHS) [23] in Polish language version, called *Hope for Success Questionnaire (Polish acronym KNS)* [24]. AHS is a 12-item measure of a person's level of hope, understanding as cognitive expectancy and mode of thinking, according to C. Snyder's cognitive model of hope. The scale is divided into two subscales: *Agency* i.e., goal-directed energy (4 items) and *Pathways* i.e., planning to accomplish goals (4). The remaining 4 items are fillers. Respondents answer using an 8-point Likert-type scale ranging from Definitely False to Definitely True. According to authors of AHS, this tool measures dispositional hopefulness and the author of present article believes that this personal dimension there is an important factor and may be, even the element of human well-being. **Procedure.** Data collection used cluster sampling. Respondents, chosen according to age and gender criteria, were invited to fill in paper questionnaires or to complete online versions of the questionnaires. Participation in the study was anonymous and no rewards were offered to the participants.

Statistical analyses. Typical descriptive statistics as means, standard deviations, etc. as well as correlation coefficients were calculated. For identify eventual influence of gender on interactions between autistic traits and indicators of subjective well-being, two factors mixed analysis of variance and series of multiple regressions where dependent (target) variables were life satisfaction, sense of happiness and hope and independent variables (predictors) were autistic traits (AQ and underlying autistic traits). Statistical analyses were conducted in *SPSS* and *Statistica* programs and interpreted according to methodological and statistical literature [25][26][27].

4. Results and Discussion

Table 1 shows that there are differences in AQ score as well as in Communication and Imagination scores between gender subgroups: men represent more autistic traits than women and with higher level of difficulties, especially in domains of communication and imagination. The results are coherent with knowledge about sex/gender differences in autism spectrum disorder or condition. There are no sex differences in happiness, life satisfaction and hope, except Agency as Hope factor, that is higher in women.

Table 1 Characteristics of the sample: men and women

Mean/SD	Men (M) (n=133)	Women (F) (n=133)	Statistics (t)
Age (years)	37,41/16,12	36,38/15,5	n.s.
Autism Spectrum Quotient *	19,13/5,96	17,01/5,41	0,002
-Social Skills	2,61/2,29	2,13/2,03	n.s.
-Attention Switching	4,85/2,28	4,98/1,98	n.s.
-Attention to Details	4,30/2,23	4,78/2,09	n.s.
-Communication	3,54/1,95	2,32/1,63	0,000
-Imagination	3,88/2,02	2,80/1,82	0,000
Hope (AHS)	44,41/10,05	45,86/8,03	n.s.
-Agency	21,47/5,35	22,62/4,29	0,055
-Paths	22,94/5,58	23,25/4,51	n.s.
Sense of Happiness	2,60/0,88	2,49/0,80	n.s.
Life Satisfaction (SLSS)	22,56/5,21	22,27/5,77	n.s.

*Autism Spectrum Quotient will be referred further to as AQ

Figure 1 illustrates patterns of autistic traits among women and men participated in the research. Table 2 consists of data (corresponding to the results shown in Figure 1), which are derived from two factors mix analysis of variance which show high influence of gender and autistic traits as well as interaction between them, on results.

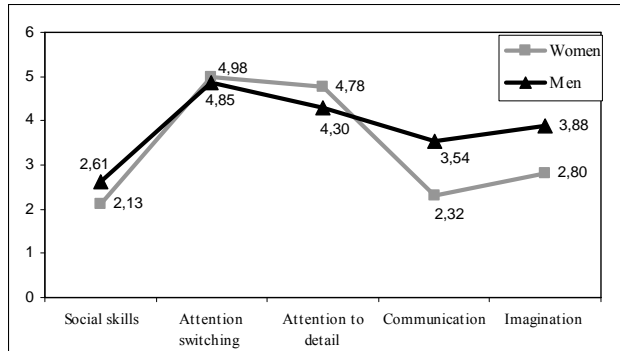


Figure 1: Autistic traits in two non-clinical samples of women and men.

Table 2 Gender and autistic traits. Results of two factors mixed Anova

Sources of variance	SS	Df	MS	F	p-value
Rows	62,79774	1	62,79774	15,05652	0,0001
Columns	1238,418	4	309,6045	74,23141	0,0000
Inter	147,0556	4	36,76391	8,81459	0,0000
Within	5505,459	1320	4,170802		
Total	6953,73	1329			

Table 3 Correlations between autistic traits and SWB indicators in non-clinical women sample (N=133)

	AQ	HO	HA	LS	SS	A-S	A-D	CO
AQ	1							
Hope	-.25	1						
Happy	-.24	.32	1					
LifeSatis	-.14	.41	.25	1				
SocSkills	.74	-.19	-.24	-.14	1			
AttSwite	.59	-.12	.09	.07	.31	1		
AttDetail	.16	.14	.04	.04	-.13	-.12	1	
Commun	.76	-.25	-.15	-.10	.39	.23	-.16	1
Imagin	.68	-.29	-.10	-.12	.49	.22	-.22	.47

Table 4 Correlations between autistic traits and SWB indicators in non-clinical men sample (N=133)

	AQ	HO	HA	LS	SS	A-S	A-D	CO
AQ	1							
Hope	-.32	1						
Happy	-.25	.28	1					
LifeSatis	-.24	.43	.34	1				
SocSkills	.73	-.19	-.24	-.18	1			
AttSwite	.60	-.16	.29	.16	.26	1		
AttDetail	.17	.09	.17	.04	-.06	-.12	1	
Commun	.48	-.14	-.13	-.06	.22	.20	-.03	1
Imagin	.64	-.37	-.13	-.22	.45	.17	-.21	.20

Tables 3-4 show the Pearson r correlations of AQ and its underlying components with indicators of subjective well-being, i.e. hope, sense of happiness and satisfaction with life for women and men, respectively. Statistically significant r Pearson coefficients minimal values for 133 study subjects are: 0,17-p=0.05, 0,27-p=0.002, 0,28-p=0.001. Analysis of correlations between all studied variables lets to recognize some differences between men's and women's „patterns“, (F pattern and M pattern), that are supposed to reflect different styles of women's and men's functioning. In M pattern AQ is negatively correlated with hope and life satisfaction, while in women is not. In men the greater difficulties and deficits within the Imagination area, the lower the Hope and Life satisfaction scores. Sense of happiness in men negatively depends of difficulties in Social skills and Attention switching scores and positively on Attention to detail scores. F pattern shows less relationships between autistic traits and SWB indicators than M pattern (less number of significant Pearson's r coefficients), although some of them are similar in both patterns but differ in intensity. Interesting specificity of F pattern is that Hope and Attention to details are positive corellated, what suggests the role of this domain as positive resource for hoping and coping in women's sample, while in the men's sample, results shows different pattern of relationships. Among men the same trait positively correlates with the Sense of happiness, which represents affective rather aspect of individual's life in this study and possible connection Attention to details in males with flow experiences as source of positive emotions, especially pleasure, can be considered. Several regression analyzes were performed to examine the role of autistic traits and gender as predictors of subjective well-being in general as well as within sex/gender samples and the results of correlation analysis have been confirmed in general.

6. Conclusions

The implicit assumption about the possible existence of separate patterns of autistic traits influence on subjective well-being regulation according to sex/gender differences have been confirmed, but further research is needed. The special role of excessive attention to details, pre-recognized in the previous author's study [9] as possible source of personal strengths in people with autism, has again become an object of interest in these studies.

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RELATIONSHIP BETWEEN FAMILY RESILIENCE AND PARENTING STYLE IN ADOLESCENT GIRLS

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Abstract: *Family resilience is defined as an adaptive process that families use in negotiating and coping with crises and adverse situations. In this process, family functioning is crucial. One way of understanding resilience is therefore through parenting style. The objective of our research was thus to explore a relationship between components of family resilience and parenting style in adolescent girls. The sample consisted of 83 fourth and fifth adolescent graders from bilingual secondary school in Bratislava, Slovakia. We used Slovak version of the Family Hardiness Index by McCubbin, Thompson, and McCubbin (1996) and sE.M.B.U. (Arrindell, 2001). We did not find that both parents are equally important in family resilience. Our results showed that maternal emotional warmth and paternal rejection are of the most importance as to family resilience. Furthermore we found big differences between low and high family resilient adolescent girls. Protection as one of the parenting dimensions was not important in family resilience.*

Keywords: *family resilience, parenting style, adolescent, adolescent girl*

1. Introduction

Ungar [1] defines resilience as the ability of an individual to obtain the resources necessary for experiencing of subjective well-being and the possibility of social and cultural backgrounds to provide these resources in ways that are culturally understandable. Ungar and Liebenberg [2] differentiated four areas of resilience, that support healthy development: a) individual capacities such as assertiveness, self-awareness; b) relationships with primary caregivers or relational resilience, defining physical and psychological caregiving; c) community factors for instance perceived social equity, access to school and education, and d) cultural factors including for example having a life philosophy or being culturally grounded.

With regard to relational resilience, Ungar [1, p. 227] embraces a diverse range of social characteristics 1) quality of parenting meets the child's needs: the family is emotionally expressive and parents monitor the child appropriately; 2) social competence (person knows how to act socially); 3) having a positive mentor and role models; 4) meaningful relationships with others at school, home, perceived social support, peer group acceptance. Relational resilience can be conceptualized as family resilience that is defined as an adaptive process that families use in negotiating and coping with crises and adverse situations [3, 4, 5]. There is empirical evidence that four areas of resilience are related [6] and they are in relation with other concepts as well. For instance, relationship to caregivers was in relation with Big5 dimensions. Predictors of relationship to caregivers were agreeableness, conscientiousness and openness to experience [7].

Many of the most relevant family studies have focused on particular aspects of family functioning. One way of understanding resilience is through parenting behaviour that was developed by Baumrind [8], which she referred to as "parenting style". In this research, we focused on

parenting style encompassing rejection, emotional warmth and protection. These have been broadly theoretically and empirically supported to form basic dimensions of parenting style [9, 10, 11, 12].

Research on family resilience and parenting style dimensions is still sparse when discussing non-clinical, non-chronically ill or not-in-risk adolescents. At any rate, adolescent period is full of turbulence and can bring a lot of challenge for family.

It has been shown that both maternal and paternal parenting are important in adversity as seen by adolescents, especially higher level of parental emotional warmth and lower levels of parental rejection [13]. When focusing on positive and negative emotional relationship separately, mother's emotional relationship (both positive and negative) to adolescents was strongly related to family resilience, while the father's relationship showed a weak relationship with family resilience [6]. High-resilient compared to low-resilient adolescents perceive their families as: more cooperative, resolute and able to solve problems, actively accepting challenges, innovative and learning from experience [6]. Family cooperation in difficult situations positively correlated with emotional warmth of father and negatively with his rejection [13]. Family resilience was in moderate negative relationship with parental demands [6]. Family resilience was in strong positive relationship with family cohesion [14].

In this research, we focused on the relationship between family resilience and parenting style encompassing rejection, emotional warmth and protection. We formulated the following research questions:

RQ1: Is there a relationship between family resilience and parenting style?

RQ2: Is there any difference between extreme groups of family resilience in parenting style?

2. Methods

2.1 Research sample

Our research sample consisted of 83 fourth and fifth graders from bilingual secondary school in Bratislava, Slovakia. Age of participants ranged from 17 to 20 years ($M = 18.23$; $SD = .816$). 46 participants were first-born, 27 were second-born; 60 were from dual-parent families, 23 were from single-parent family.

2.2 Methods of data collection

2.2.1 sE.M.B.U.

Parenting style was measured by the sE.M.B.U. created by Arrindell et al. [9] that was translated to Slovak by Poliaková, Mojžišová and Hašto [15]. The self-reported questionnaire consists of 23 items that are answered on a four point Likert scale (1= "no, never", 4= "yes, always"). We included item number 9 ("My parents tried to spur me to become the best.") into emotional warmth. Three dimensions were computed as summary indices separately for mother and father:

- rejection (7 items) including punishment, shame, favouring of siblings, criticism;
- emotional warmth (7 items) as affection, stimulation and praise;
- protection (9 items) including concerns and anxiety about child's safety, intrusive behaviour of parents;

Higher score (overall/dimension) indicates increased characteristic. Guess of reliability was acceptable ($\alpha > .73$) in the original study [9]. In our research internal consistency was also acceptable ($\alpha > .690$ in each dimension for mother and father).

2.2.2 Family Hardiness Index

Individual perception of family strength and control over adverse situations was determined by self-administered questionnaire- the Family Hardiness Index [16]. 20 items are scored on a 4-point scale from 0 = "false" to 3 = "totally true". Three summary indices were computed:

- commitment (8 items) including family's sense of dependability, their internal strengths and their ability to work together;
- control (6 items) measuring the family's perception of being in control of their family life, as opposed to being shaped by outside events and circumstances;
- challenge (6 items) assessing the family's willingness to engage in new experiences, use an active and innovative approach and to learn from their experiences.

Moreover, we computed overall family hardiness index as summary index. Higher score (overall/dimension) indicates increased characteristic. In original study, overall internal consistency was $\alpha = .82$, with the commitment, challenge, and control dimensions having an internal consistency of .81, .80, and .65 respectively [16]. In our study, overall internal consistency ($\alpha = .773$) was acceptable with the commitment, challenge, and control dimensions having .784, .638 and .270 respectively. Therefore we did not undergo further analysis for control dimension, but we included it in the overall family hardiness index.

3. Results

3.1 Parenting style

Distribution of rejection for both mother and father was slightly negatively skewed. The other dimensions were approximately symmetrically distributed. Basic descriptive statistics are displayed in table 1.

Tab. 1 Descriptive statistics of the parental style

	Mode	Median	Mean	SD
1	8;9	9.87	11.215	3.933
2	9	9.44	10.301	3.091
3	24	21.95	21.458	4.086
4	23	20.14	19.735	4.701
5	23	21.43	21.723	5.179
6	19	18.47	18.398	4.345

1 maternal rejection, 2 paternal rejection, 3 maternal emotional warmth, 4 paternal emotional warmth, 5 maternal protection, 6 paternal protection

Intercorrelations between maternal and paternal style were positively strong for each dimension ($r/r_s > .51$). Medium and big differences in mothers and fathers were also statistically significant with maternal style receiving higher scores in rejection ($Z = -2.472$; $p = .013$; $r_m = .26$), emotional warmth ($t = 4.257$; $p < .001$; $r_m = .43$), and protection ($t = 6.364$; $p < .001$; $r_m = .57$).

Maternal rejection moderately correlated with maternal emotional warmth ($r_s = -.383$) and protection ($r_s = .449$). Paternal rejection moderately correlated only with paternal emotional warmth ($r_s = -.380$). Intercorrelations between maternal and paternal variables are displayed in table 2.

Tab. 2 Intercorrelation matrix in the parental behaviour

M/P	R	EW	P
R	.663**	-.217*	.081
EW	-.314**	.656**	.223*
P	.320**	.082	.512**

M maternal, P paternal, R rejection, EW emotional warmth, P protection, * $p < .05$, ** $p < .01$

3.2 Family resilience

Dimensions as well as overall family resilience were approximately symmetrically distributed. Basic descriptive statistics are displayed in table 3.

Commitment and challenge were positively strongly correlated ($r = .584$). Modified mean was computed as summary index divided by number of items so we could compare scores of these dimensions. They moderately differed ($r_m = .43$) with commitment having higher modified mean ($M = 2.16$; $SD = .507$) than challenge ($M = 1.93$; $SD = .527$).

Tab. 3 Descriptive statistics of the family resilience

	Mode	Median	Mean	SD
1	18	17.75	17.241	4.059
2	13	11.15	10.928	2.336
3	13; 14	12.14	11.590	3.162
4	44	41.33	39.759	7.278

1 commitment, 2 control, 3 challenge, 4 overall family resilience

3.3 Relationship between parenting style and family resilience

We checked scatter graphs and we found only linear relationships, if any. Relationships between parental rejection/parental emotional warmth and overall family resilience were strong. The values of correlation coefficients are presented in table 4.

Tab.4 Correlation matrix between the parental style and the family resilience

r/r_s	commitment	challenge	overall family resilience
1	-.459**	-.261*	-.466**
2	-.419**	-.367**	-.512**
3	.482**	.555**	.573**
4	.414**	.593**	.548**
5	-.209	.097	-.039
6	.030	.125	.130

1 maternal rejection, 2 paternal rejection, 3 maternal emotional warmth, 4 paternal emotional warmth, 5 maternal protection, 6 paternal protection, * $p < .05$, ** $p < .01$

A multiple linear regression was calculated to predict family resilience based on parental rejection and emotional warmth. We used stepwise method and two models were significant. First significant regression equation was found ($F(1,81) = 39,608$; $p < .001$) with adjusted $R^2 = .320$. Maternal emotional warmth was thus found significant predictor of family resilience ($\beta = .573$, $p < .001$).

The second model included paternal rejection ($F(2,80) = 36,059$; $p < .001$) with adjusted $R^2 = .461$. Both maternal emotional warmth ($\beta = .424$, $p < .001$) and paternal rejection ($\beta = -.410$, $p < .001$) were thus found significant predictors of family resilience.

Further analysis concentrated on differences between groups of participants with very high and very low degree of family resilience. Based on 25th and 75th percentile, we divided our participants into extreme categories (very low $FHI \leq 35$, $N = 22$; very high $FHI = 47+$, $N = 15$) and compared the level of parental behaviour in the extreme groups (tab. 5). Participants with very high family resilience scored lower in rejection and higher in emotional warmth while correlation measure of effect size was high and medium respectively.

Tab. 5 Differences of the parental behaviour in participants with very low and very high family resilience

	Family resilience					
	Very low		Very high			
	Mdn		Mdn		<i>p</i>	<i>r_m</i>
1	12		8		< .001	.677
2	11		9		< .001	.650
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>p</i>	<i>r_m</i>
3	18,046	4,192	23,600	3,043	< .001	.356
4	15,818	4,787	22,267	4,097	< .001	.341
5	21,136	6,002	19,867	3,502	.466	.015

6	17,046	4,746	17,533	4,257	.751	.003
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1 maternal rejection, 2 paternal rejection, 3 maternal emotional warmth, 4 paternal emotional warmth, 5 maternal protection, 6 paternal protection, p - significance, r_m - correlation measure of effect size

4. Discussion

Problematic and difficult situations help us move forward. This is valid for individual level as well as for broader scope, such as family. Within the context of family, one of the most important concepts is parenting style. Therefore, the aim of our study was to explore the relationship between family resilience and parenting style.

Our results of family resilience levels were comparable to other Slovak research results [6]. Commitment seems to be more important in family resilience than challenge suggesting that dependability, internal strength and ability to work together is very valued.

Very interesting intercorrelation in parenting style dimensions suggest that the higher rejection, emotional warmth or protection in one parent, the higher in the other one. We call this phenomenon as parental comorbidity. Protection is the dimension of parenting style that is most different suggesting that maternal protection is higher than paternal and these differences are of high effect size.

As to relationships between tackled concepts we found strong correlations of family resilience and either rejection or emotional warmth. The results of the multiple linear regression indicated the maternal emotional warmth together with paternal rejection explained 46.1% of the variance of the family resilience. The result is not surprising as parenting styles encompass social characteristics as Ungar [2] stated in relational resilience. Our results are also in line with other empirical evidence [6, 13]. Though, we did not find that both parents are equally important, which is also supported by other findings [6]. Furthermore we found big differences between low and high family resilient adolescent girls.

Protection eluded from family resilience which could mean that intrusive behaviour of parents, their concerns and anxiety about adolescent girls' safety did not support family in coping with crises and adverse situations.

In general, concern about maternal and paternal style is important since adolescent girls differentiate between interactions with primary caregivers and see differences in their behaviour. Mothers function more as emotional givers, while fathers as non-critic givers.

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PSYCHIC LABILITY OF FUTURE TEACHERS

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Abstract: The paper describes the partial results of the research implemented with the support of the project SGS-2016-063 - Studying at the Faculty of Education as a place for forming the future teacher's professional identity. It focuses on psychological stability in the context of workload. The key concept is neuroticism, which is monitored in terms of the impact on the performance of the teaching role. The survey was carried out at the Faculty of Education at the West Bohemian University in Pilsen during the academic year of 2016/2017. It investigates the level of neuroticism among teachers and students of teacher programs. From the methodological point of view, this is a questionnaire survey. The result is a comparison of both target groups.

Keywords: stress, neuroticism, psychic stability, teaching profession

1 Introduction

The teaching profession is, in many ways, an increasingly stressful occupations (Helus, 2007). Already in the 1960s Duric was dealing with workload in the Czech environment, later Langová, Kodým and others. Up to 40% of teachers were found long-term stress, anxiety and depressive states. The occurrence of neurotic and psychosomatic disorders was also high (in Průcha, 2002). Řehulka and Řehulková (1998, 1999) defined the burden of the teaching profession as a discrepancy between the requirements for the worker and his options. Regarding physical load, the legs and the voice are the most stressed and teachers feel tired.

In terms of the psychological burden of teachers, it is a sensory, mental and emotional burden. In this research, 40% of teachers were found to have an increased rate of neuroticism, 10% at the limit of pathology. According to Průcha (2002), teachers usually complain about the lack of time to relax, the inadequate cooperation of parents, the poor attitudes of the pupils to work, the lack of tools, the high number of pupils in classes, and the misbehavior of pupils. Psychic endurance is a prerequisite for a successful teaching role. A highly stressed teacher poses a demoralizing and demotivating danger for pupils (Helus, 2007). Therefore, when selecting candidates for teachers more attention should be paid to their psychic stability.

2 Theoretical basis

2.1 Neuroticism

The psychological dictionary defines neuroticism as "the dimension of the personality characteristic of the clinical picture of neurasthenia, nervous weakness, irritability and fatigue, which is part of a series of personality tests (Hartl, 1993). Originally, it was the term by H.J. Eysenck, who generally characterized it as the innate dimension of temperament in 1947 (Cakirpalogl, 2012). Eysenck defined neuroticism as a lack of personality integration (Nakonečný, 2009). According to the model of the Big Five neuroticism stands on two basic personality traits, irritability and detachment. The first is a collective

indication of irritated behavior with an inclination to anger, while the second is a feature involving anxiety, fears and associated defense mechanisms (Vágnerová, 2010). In the literature, the term "emotional lability or emotional stability" is also used for neuroticism. Neuroticism is described one way. Lability is defined by the presence of many symptoms fault function, while stability is characterized by the absence (Blatný, 2010). Kohoutek characterizes neuroticism as a genetically conditioned susceptibility to emotional and total mental lability (Kohoutek, Janušová, 2002). Also McCrae (2000) argues that neuroticism is based primarily on biological basis and therefore it does not experience any environmental changes to its influence. According to Cattell, it is influenced by the environment (Nakonečný, 1998). Eysenck attributed neuroticism to the degree of heredity of 0.80 (Řičan, 2007).

2.2 Intrapsychic manifestations of neuroticism in the context of the teaching role

Neuroticism is defined primarily by the character of emotional experience, which is related to the specific dysfunctional way of processing information (Vágnerová, 2010). Individuals who are high in neuroticism are often worried, feel embarrassed, insecure, nervous, anxious, experiencing fear or sadness. Their ideas do not correspond to the reality and therefore they have a limited ability to control and manage stressful situations (Hřebíčková, 2011). The predominant "neurotic" emotional behavior also greatly effects the functions of their cognitive processes. The influence of neuroticism on cognitive processes has already been investigated by a large number of psychological studies. Authors Eysenck, (2000); Matthews, (2004); Rusting, (1998); Williams et al., (1996) have combined neuroticism primarily with attention towards emotional information. Subjects with high scores of neuroticism was identified increased attention towards negative or threatening information. According to Vágnerová (2010), these individuals remember the negative and threatening stimuli longer.

Neurotic emotions also suppress thinking (Mareš, 2013), especially its flexibility (Nakonečný, 1998). Neurotic people do not adequately control their emotions to solve a problem and thus less focus on the problem itself (Nakonečný, 1998). The overall "neurotic bias" is also evident in other levels of cognitive processing, such as greater tendencies towards pessimism, negative self-esteem, and lower self-esteem (Matthews, 1999; 2000). These characteristics influence the performance of the teacher role. To illustrate, we offer some questions to ponder: How does a teacher with a high level of neuroticism work with their pupils? Can he adequately and rationally respond to classroom developments? Does he manage to cope with the stress of the teaching profession and does he deal with emotionally challenging situations? Is an increasingly neurotic teacher able to maintain pedagogical optimism and trust his pupils? Can his perception and pupil assessment be objective? Does a highly neurotic teacher have authority?

3 Research objective and methodology

The aim of the research was to find out what is the level of neuroticism among students of the Faculty of Education and what are the differences in comparison to the teachers in teaching practice. Eysenck's adult personality questionnaire - EPQ-R was used to determine the level of neuroticism (Eysenck, Eysenck, 1993).

A total of 390 students of teaching from two pedagogical schools in the Czech Republic were included in the sample (158 men and 232 women). Their level of neuroticism was compared to the level of 501 teachers. These were 106 men and 395 women, which proves the feminisation of Czech education.

4 Results

More than one third of students (36%) show signs of higher neuroticism. Differences between men and women are shown in the following chart.

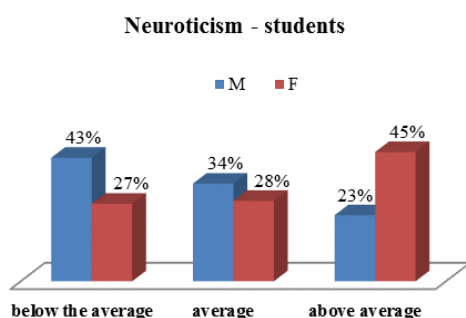


Figure 1: Neuroticism of students - gender

Among men, there are more sub-average neurotic, at 1% level of significance. The increased tendency of female students to psychological lability was found at 5% of the significance.

Only 23% of neurotic people were found in the group of teachers. Figure 2 shows gender differences. A statistically

significant difference was seen only in men's reduced neuroticism, at the 0.1% significance level.

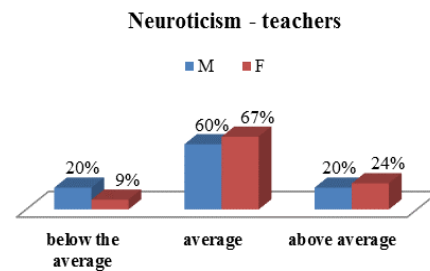


Figure 2: Neuroticism of teachers – gender

The comparison of the group of teachers and group of students is shown in figure 3.

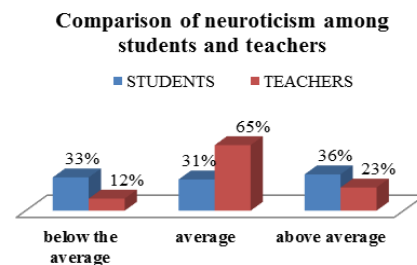


Figure 3: Neuroticism of teachers and students

Among students, there is a significantly higher number of individuals with under-average and above average neuroticism compared to teachers, which was reflected at a level of significance of 0.1%. At the same time, there were significantly more neurotic and significantly less above-average and below-average neurotics in the practice teachers, both at 0.1% level. In the category of particularly high neuroticism, 16% of students and 7% of teachers were found.

5 Conclusion

The investigation did not show a higher level of neuroticism among teachers who already perform pedagogy. On the contrary, the group of students appears more neurotic in the category of particularly high neuroticism. The reasons for this can be the developmental traits, the current work of stressors at college. Could in this way also show significant biological basis neuroticism and we have accidentally chosen an emotionally stable group of teachers. Still, however, the teaching profession is very stressful and individuals with high neuroticism are less able to cope with this burden. Therefore, candidates for teaching should be mentally more stable personalities.

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Session: History, Sociology

Index of Author(s)

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THE PROSPECTS OF THE VICTIM IN THE CRIMINAL PROCEEDINGS

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Abstract: *The author deals with the concept of victim in the position of aggrieved party in the criminal proceedings within the legal framework of the Slovak Republic. The author, within the contribution, points out the potential legislation gaps, which he further describes and puts in line with the practical situations the victim may face. The article emphasizes that the victim may not be just the person making a complaint with regard to criminal offense or the person convicting the perpetrator, but it is a person who shall have a significant influence on the criminal proceedings on the basis of relatively broadly granted rights. In the end, the author, applying the inductive-synthetic method, reaches future solutions to the questions raised by the legislation regulating the victim's rights and duties.*

Keywords: *victim, criminal proceedings, de lege ferenda suggestions*

1. Introduction

Only in the first nine months of 2017, 51,947 criminal offenses have been recorded according to the available statistical data from the Ministry of the Interior of the Slovak Republic (hereinafter referred to as the "SR"). [1] Although it is possible to perceive the slightly decreasing crime rate in recent years, it should be said that this number reflects also the number of victims behind the crimes. Therefore, it is important for the potential victim, as the subject of the criminal proceedings, to thoroughly recognize his rights and to be able to use them in a way that could bear fruit in the form of a successful claim for damages directly in the criminal proceedings.

Recognizing the importance of the victim in criminal proceedings, this work aims to point out the problematic aspects of the victim and his or her status in the criminal proceedings along with the potential solutions to them. In addition to examining theory and jurisprudence, ideas of professional practice will also be reflected.

2. The positive perspectives of victim

Criminality is always a negative phenomenon of society. It can not be totally avoided. Under its influence, one may get at the end of his tether from day to day. Paradoxically, however, a person of perpetrator is more mentioned and more interesting in the eyes of society, whereas a victim keeps a low profile. It's almost unusual to hear about the publicizing of victim and, namely, about the failure to pay for the damage caused to her. Consequently, the presumption of the absence of an interest in the victim, especially by ordinary citizens, is highlighted. Those, unaware of the possible negative impact of the crime on any of us, remain in *status quo*, since they are not interested in knowing the status of the victim and her rights.

The victim in this case is not only the person making a complaint with regard to criminal offense or the person convicting the perpetrator – the victim has a significant impact on the basis of relatively broadly granted rights. The Code of Criminal Procedure [2] defines the victim as a person "to whom the criminal offense caused bodily harm,

damage, non-material damage or other damage, or to whom the criminal offense infringed or threatened any other legally protected rights or freedoms". For a person to qualify as a victim in the criminal proceedings, at least some bodily harm is required. This is the broadest concept, encompassing any health harm. [3] Due to the significant impact of the victim on the criminal proceedings, the importance of the victim should not be underestimated. However, if the victim is not aware of his or her rights, because he or she relies on the fact he would not end up in the position of the victim in the criminal proceedings, the wrongful punishment of the perpetrator may not occur, neither the compensation for the damage he is often interested in. Only the active approach of the victim can contribute to legitimate justice.

Despite the obvious continuous efforts, especially after the turn of the millennium, in strengthening the position of the victim as one of the parties in the criminal proceedings, this positive trend can not be considered as a sure guarantee of effective protection of all its legitimate interests. The fact remains, however, that even the current legal situation does not draw fire and offers a toolkit that primarily aims to avoid unnecessary discomfort and stress or secondary victimization in trial. [4] This is in particular as for the realization of the instructional and information duty or the possibility of active involvement of the victim in the proceedings. In many cases, it is only sufficient to apply existing institutes more rigorously and efficiently. We will try to clarify the aforementioned and support it with concrete solutions in the following lines. In particular, we shall proceed from the fact that in practice the victim appreciates more the way he or she is treated after committing the crime rather than the actual punishment of the perpetrator. Nevertheless, we also do not overlook those proposals that do not have a solid foundation in the existing legal framework.

2.1 The awareness and knowledgeability as the paved way for victim

One of the areas where the law is already established to strengthen the status of the victim is the instructional duty

of a court and police and prosecuting authorities that are required by law to not only instruct the victims, but also to give them the possibility of their full realization. They are even obliged to provide him or her with the written information about his or her rights at the first meeting. [5] Although the way in which this obligation is fulfilled depends on the individual qualities and experience of the representatives of a court and police and prosecuting authorities, it is desirable not to confine itself to just a formal fulfillment of the duty at the expense of the victim. In other words, it is undesirable to provide the victim with merely the written instruction on his or her rights in the form of a citation of the law, which many times leads to the rigidity of the exercise of these rights. The situation from the layman's point of view may not be difficult to imagine at all, whereas the consequence of the alleged rigidity lies in *de facto* only a quasi-understanding by the victim. With the use of a soft pathos, it can be said that the victim reads or hears out his or her rights, but does not understand them. As the solution here appears the possibility of an internal instruction or standard on a more thorough informing procedure, or the possibility of an emphasizing of such an intention in the legal regulation. [6] We believe that mere verification whether the victim understands his or her rights could prevent subsequent complications as a result of his or her misinterpretation and thereby it contributes to a more seamless or perhaps more efficient legal proceedings. Yet, it should be pointed out here that the lack of instruction provided to the victim is a defect, but not a material one justifying the annulment of the contested judgment by the court of appeal within the meaning of Section 321 of the Code of Criminal Procedure. Thus, consequences might have a noticeable impact. [7]

In practice, the situation, in which the victim has been summoned to court to testify, is not unusual. [8] In relation to the abovementioned instructional duty, in such a case, the victim is also provided with the rights and duties of the witness. It is therefore necessary and appropriate for the "victim - witness" to be instructed on the opening of the trial as well as on the probable time of his examination and on the fact that as a victim, not as a witness, he or she is not obliged to participate in the trial, even though he or she claims for damages against the defendant. [9] The motion of the victim shall be read if the victim is absent from the court given the condition the motion has been recorded in the file. [10] Following that, the victim might be saved from unnecessary waiting in the court building, which may cause him or her distress and possible secondary victimization.

At the same time, if we could afford serious criticizing of the actual status of the victim, it would be first in the proceedings before a single judge deciding the minor offenses, as the victim can claim his or her damages only until the moment of the investigation or shortened investigation. However, due to the nature of the penalty order, unlike the trial, the victim is not informed in advance, and thus many times the victim gets under the gun and disadvantageous position. [11] In that sense, the imbalanced position of the victim towards the other parties

is justified in the case law by the permissible limitation of the powers of the persons involved in the criminal proceedings resulting from the principles and purpose of the Code of Criminal Procedure in the event of conflict of the interests of those entities. [12] Nevertheless, the pertinent limitation to the detriment of the victim can be avoided in a simple way through a police authority who, when hearing out or handling a complaint with regard to criminal offense, can judge, given the legal qualification of the act, whether the case can be decided by a penal order and at the same time, the victim might get noticed about that. Similarly, the prosecutor may in the sense of Section 234 par. 1 of the Code of Criminal Procedure instruct the victim on the possibility of seeking an indictment as well as on the probability of the issuing of a penal order. By doing so, the victim will be able to promptly make a claim for damages before the competent court, unless, of course, he has not done so. [13]

On the other hand, the victim may get under the gun also in a different way than in the case of ruling on a penal order. Therefore, we suspect in this respect that nothing shall prevent the extension of the period, during which the victim can claim for damages, i.e. it should be possible to do so even after the end of the investigation or the shortened investigation.

However, the Slovak legal regulation of penal order in relation to the right to objection does not show signs of such criticism as the Czech one, according to which the victim does not belong among the enumerated persons entitled to lodge an objection to the penal order. [14] In this context, a single judge decides without a trial and proceeds only from the content of the file. Hence, the absence of the victim's right to objection is serious and significant and it is also emphasized by the fact that, in practice, there is often even an omission of the claim for damages. [15]

2.2 The examination of victim as a means of possible secondary victimization

Regarding this issue, it is safe to assume that improving the status of the victim acting in the trial as a witness does not seem to be a complicated task at all. In particular, in context of another provision already in force, Section 262 par. 2 of the Code of Criminal Procedure, allowing the victim to be examined in the absence of the defendant. Applying the provision in question only at the request of the victim or his or her representative would probably not prevent against possible harmful psychological as well as medical consequences whenever necessary. It seems therefore advisable to bring the role of either the judge and his or her own initiative or expert and his reference concerning psychological or psychiatric status of the "victim - witness" (required by law) to the fore, even in the case of the public exclusion institute, which already takes into account in the legal regulation the obvious and justified interest of the victim.

The "double status" of the victim is interesting also when applying the provision of Section 262 par. 2 of the Code of Criminal Procedure. Under this provision, the chairman of the Board takes care not to examine the defendant in the

presence of witnesses, who are yet to testify. The purpose of this section is to ensure that the witness is not burdened with the defendant's testimony. But here comes the question - what if the victim is the one to testify? The practice does not allow the victim, except for a small number of exceptions, to be present at the examination of the accused even with regard to his or her right to lay questions to the defendant after examination pursuant to Section 272 of the Code of Criminal Procedure, or with regard to the right to be informed of the file pursuant to Section 69 par. 1 of the Code of Criminal Procedure. This leads to the obvious procedural weakening of the victim as a party. However, there seems to be a solution, whereby the "victim – witness" would have been able to perceive the defendant's examination, while the judge would have considered the subsequent examination of the "victim – witness" in the light of that circumstance.

In connection with the different contents of the terms "victim" and "witness" there are several controversies in the legal doctrine about their strict separation, which could practically balance the position of the victim against the accused. Opinions in favor of such a separation are based on the fact that a victim in a witness's position has a more significant influence on the criminal offense than the victim without such status, suggesting that the police and prosecuting authorities and the court might regard and handle the victim as such as less relevant for the criminal proceedings. [16] We might even speak of a "subordinate" position of the victim, who serves only as an initiator of criminal prosecution with evidential relevance. [17] Ideological support for these views is further found in the general prospects of the development of the situation of the victim, i.e. through the above-mentioned efficiency improvement of the criminal proceedings or the prevention of secondary victimization of the victim. [18] By stricter separation of these concepts, the status of the witness would be characterized solely by the evidential nature and by the corresponding highlighting of protection against his or her intimidation. There seems to be no reason to ignore such views.

2.3. The appeal from the perspective of victim

In addition to the forementioned, the position of the victim towards the defendant could also be strengthened by permitting the appeal against all operative parts of the decision concerning his claim for damages. Under the current legislation, Section 307 par. 1 of the Code of Criminal Procedure defines that victim may appeal only against the operative part of decision directly linked to the claim for damages, but not against the operative part of decision linked to the conviction and sentence, which is basically the basis for the obligation of the accused to compensate the victim for damages pursuant to Section 46 par. 3, Section 287 par. 1 or Section 288 par. 3 of the Code of Criminal Procedure. In this sense, the condemning judgment determines the award of a claim for damages to the victim in criminal proceedings. However, the only subject entitled to appeal against any operative part of decision in question is the accused, which poses as the party (as does the victim) in the criminal proceedings. So

the question is, what will the victim's claim for damages be, if the court pronounces an acquittal? At this point, the principle of equality of arms can only be discussed with regard to the statement that the verdict on conviction and sentence pertains only to the accused. Therefore, irrespective of the spectrum of advantages, the disadvantage of permitting the victim to appeal against all operative parts of decision would be the extended criminal proceedings. For this reason, the purpose of the current legislation and the specific nature of the role of the prosecutor in the process of determining the guilty of the accused seem understandable. Considering potential amendment in favor of the victim, however, may not be counterproductive - on the contrary - it can bring future success.

2.4. The other potential legislative solutions and improvements

In favor of the victim, his or her ability to participate in the pre-trial proceedings, as corresponds with the ability of the accused under Section 213 of the Code of Criminal Procedure, could also be considered in the future. Thus, the victim could be allowed to take part in the investigation as well as to ask witness questions. In principle, the victim would have a greater impact on the course of the criminal proceedings and, in fact, on his claim for damages, which the court would normally have decided upon after the trial and the conviction of the accused. The relevance of such evidence and its potential impact on the satisfaction of the victim's claim is therefore obvious.

The wording of Section 48 par. 1 of the Code of Criminal Procedure also implies that in case of deprivation or limitation of legal capacity, the legal representative of the victim "carries out" his or her rights. However, in the case of the accused, there is no such a strict obligation under Section 35 par. 1 of the Code of Criminal Procedure and the accused with limited or lost legal capacity is "entitled" to be represented by his or her legal representative. The accused, respectively the defendant, can thus act in criminal proceedings all by himself, even though he or she might have limited or lost legal capacity. We assume that the change in favor of the victim, according to the legal regulation related to the accused, could also occur here. As a consequence, the pertinent equality of arms would have only reinforcing effects, as in practice the juvenile (due to lack of age) does not necessarily need to defend his or her rights worse than his or her legal representative (again, with the use of soft exaggeration, not necessarily more sensible). A potential conflict of interests could be resolved in a similar way as in Section 35 par. 1, last sentence of the Code of Criminal Procedure, i.e. by the bigger impact of the representative's words.

If we were still able to contribute with some suggestion to improve the current legislation related to the victim, it would probably be a modification and extension of the dispositional right of the victim in the sense of Section of 211 of the Code of Criminal Procedure. The law does not grant the right in question, unless it is an enumerated offense or if there is a relationship between the victim and

the perpetrator that would allow him to deny testimony. In both of these directions, i.e. both in the enumeration of criminal offenses and in the categories of persons, there could be a change. A specific example could correspond to the amendment broadening either the pertinent enumeration by minor offenses, or also broadening categories of persons by a juvenile or, eventually, by elderly people. This might also flow from rather common expressions of the victims who, after finding out the perpetrator of a crime, are many times losing interest in his or her punishment.

Also regarding the formal aspect of the matter, we can not neglect opinions regarding terminology in the case of bodily harm under Section 46 par. 1 of the Code of Civil Procedure. According to the provision in question, bodily harm refers to bodily harm as such, and, on the other hand, to serious bodily harm as well. Nevertheless, the criminal law defines health harm, which is being conceived broadly and includes health harm as well as bodily harm and also serious bodily harm, whereas the health harm itself is understood only as the other damage under the definition of the victim. Therefore, we incline to the already existing legal doctrine proposing the unification of the cited legislation.

3. Conclusion

To effectively avoid the position of a victim in the criminal proceedings is unreal, as is unrealistic to completely prevent a crime. The role of criminal law at this point shall be to discourage the potential perpetrators from committing a crime and also to prevent subsequent damage. In the event of failure to do so, it will be of no less importance to grant the victim its status and rights in the criminal proceedings and to enable him or her to participate actively in the criminal proceedings along with adequate protection of interests – such a way seems like the one preventing secondary victimization due to unjustified or other hardships.

We realize that these proposals do not necessarily have to be necessary; on the other hand, we believe their implementation would contribute to strengthening the principle of equality of arms and the position posed by the victim in the criminal proceedings. It is reasonable to assume that these proposals could prolong the criminal proceedings, but in some aspects they would also make legal enforceability in the Slovak legal environment more efficient, in particular with regard to the victim's claim for damages.

We do not consider the legal status of a victim and his or her position to be inadequate. On the other hand, we would not like to simply say that the framework for improvement is already closed. And although the trends towards the improvement of the status of victims are already here, including the draft legislation on the protection and support of victims of crime, it is up to the legislator how to further deal with them.

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Index of Author(s)

Abdulsada, Shaymaa Abbas
Adámik, Roman
Alarsan, Mohamed
Al-Mosawi, Ali I.
Awwama, Emad
Brožek, Katarzyna
Cernansky, Juraj
Duraj, Tomasz
Ferenc, Patrik
Fernandes, Darrell
Freel, Lenka
Greškovičová, Katarína
Habánik, Tomáš
Hanus, Gabriela
Hashim, Abbass A.
Hoxha, Luziana
Ivančo, Marek
Kadlecová, Lucie
Kady, Mohammad
Kaláčková, Tereza
Klouček, Vojtěch
Kongoli, Renata
Konsek-Ciechońska, Justyna
Košťál, Tomáš
Krayem, Said
Kucharcikova, Alzbeta
Lazar, Ivo
Lee, Yen-Chih
Lendel, Viliam
Línek, Barbora
Lovasová, Vladimíra
Manowicz, Adam-Alexander
Marčíšová, Veronika
Markowska, Ewelina
Melhem, Ali Abou
Miciak, Martin
Munk, Rastislav
Nguyen, Minh
Parvi, Rafał
Poláčková, Kristína
Průšová, Barbora
Radvanská, Katarína
Ralbovska Sopuchova, Sona
Rechtorík, Miroslav
Soviar, Jakub
Stadler, Dominikus
Stefaňska-Klar, Renata
Širá, Elena
Špaleková, Dominika
Teltz, Ann-Kathrin
Vodák, Josef
Wolska, Urszula
Zráková, Diana

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Published in October, 2017 by Sciemcee Publishing, London.
Proceedings document published in collaboration with SCIEMCEE - Scientific
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ISBN 978-0-9935191-6-1

