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FOREWORD

We are living in a globalized world, hence the need to reconsider the way in which we are interacting and working both locally and internationally.

The Fourth Industrial Revolution not only brings us new technologies, but requires a new leadership approach. It is about responsive and responsible leadership that could allow us to keep up with the major changes likely to occur due to new technologies in place.

“The convergence of new technologies is creating unprecedented opportunities in all aspects, from business-to-business commerce to humanitarian intervention. The melding of artificial intelligence (AI) with big data capabilities – not to mention the actual exponential accumulation of data itself – has created a fascinating world of communications, collaboration and interaction, not just between people but also between machines and between people and machines”¹.

In this context, the potential employees are expected to display a new set of skills and competences. “Businesses have a role to play in lifelong learning and reskilling. People are just not prepared for the digital future.” said Fransvan Houten, President and Chief officer, Royal Philips.

One challenge in particular is drawing the world leaders attention, namely expanding social participation in the process and benefits of economic growth. Over the past few years, a worldwide consensus has emerged on the need of a more socially inclusive approach to creating economic growth, but inclusive growth remains an aspiration, not only for the EU but also for the rest of the world. A systemic framework to guide policy and practice towards achieving the inclusive growth target has yet not been developed.

The ultimate objective of the national economic performance is broad-based and sustained progress in living standards, a concept that encompasses wage and non-wage income (e.g. pension benefits) as well as economic opportunity, security and the quality of life. This is the bottom line basis on which a society evaluates the economic dimension of its country’s leadership. Many countries have had difficulties in meeting the social expectations in this regard. For example,

¹ World Economic Forum-Annual Meeting Report, 2017



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in the last five years, annual median incomes have dropped by 2.4% in advanced economies, while GDP per capita growth has averaged less than 1%.²

The current issue includes papers discussing the role of growth poles in the European economic integration, the factors that may affect the financial sustainability of the pension system in Romania, the banking systems in two different worlds – Romania and Iceland but having similar development, problems and the importance of the audit of the quality control systems and the company level, with major implications on competitiveness. Communication is really important nowadays and using English seems to be not only common sense in the business world, but it has become a universal language of communication in today's digital world.

JEDEP's editorial team is in the process of developing a special section of each JEDEP's issue, dedicated to young researchers, those "raising stars", the tomorrow's outstanding professionals that might contribute significantly to the change of the world.

Editor-in-chief,

Prof. Manuela Epure, PhD

² WEF- The Inclusive Growth and Development Report, 2017, vii



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The influence of positive reinforcements on motivation for education and training activities

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Abstract. This article presents a research on the influence of positive reinforcements on motivation for education and training activities. The study is conducted in a real educational environment. Numerous different theories perceive the motivation of the individual as a driving force for every action and behavior. In this paper, we draw attention to the positive reinforcements, rewards and incentives provided in the learning process, which could influence the motivation for learning and respectively the better performance of the students. The subject of the study is the positive reinforcements, rewards and incentives provided in the training process. The object of the study is cadets in the last year of their education in the Military Science professional field, specializing in Organization and Management of Military Units at a Tactical Level at the National Military University in Bulgaria. The study includes students and cadets in the first year of education as control groups for comparison.

Keywords: education and training activities

JEL Codes: M1

1. Introduction

The management is often associated with the idea of the owners of businesses to exercise most or all management functions. There was an overlap in the ownership and management before the industrial revolution mainly because of given the importance of most commercial operations. In the 21st century it is becoming increasingly difficult to split management into separate functional areas. There are branches related to the management as innovation management [1, 2, 3], public sector management, management of education, project management, and management of work stress. Issues such as communication between people and organizations and the process of making management decisions gained new meaning in the terms of personnel policy pursued by the organization and the issue of promotion of social responsibility and its relation to ethics and organizational culture. Social management has appeared and has become a separate field of science including aspects of the fundamentals of management, human resources management, and motivation management [11].



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2. **Fundamentals of the study on the influence of positive reinforcements on motivation for education and training activities**

Numerous different theories perceive the motivation of the individual as a driving force for every action and behaviour. In this paper, we draw attention to the positive reinforcements, rewards and incentives provided in the learning process, which could influence the motivation for learning and respectively the better performance of the students.

Ancient philosophers such as Aristotle, Heraclitus, Plato, Socrates, spoke of the need as a "teacher of life". Democritus (460-379 BC) considered the need for such a major driving force, which did not only implements the emotional states, but also makes the human mind "sharp" and let change in language, speech and work habits. Heraclitus (544-483 BC) defined the needs as "living conditions" and believed that moderation in addressing the needs facilitated the development and improvement of intellectual skills. Aristotle (384-322 BC) made a significant step forward describing the mechanism of human behaviour. He suggested that ambitions were always associated with a target that brought a person positive or negative results. On the other hand, the driving force of people's behaviour is determined by the needs and associated feelings of satisfaction and dissatisfaction to perceive the usefulness or useless of the object. By the end of the 20th century the theories of motivation put the priority on people and their needs.

According to Biological theories of motivation, the individual behaviour is the result of internal physical, chemical and biological processes and the physiological structure of all needs is a source of reasons for the behaviour. At the same time the source of activity of each organism appears as perceived needs of the body, something missing at a time. Biological motivation theories argue that the natural state of the body is inactive, and therefore it needs instigator powers to be forced into activity.

All researchers in psychology are also interested in the formation of motivated human behaviour, either unconscious mental processes described by Freud's model of the individual characteristics of Jung or super traits of Eysenck. The theoreticians such as Adler, Erikson, and Fromm recognized the crucial role of cultural, social, family and interpersonal impact on human behaviour. According to some Psychoanalytic theories of motivation, motivation is a fundamental need, aimed at strengthening and self-actualization of all aspects of human being and the most important goal in life, after forming oneself is self-actualization.

Behaviourist theories of motivation explain the behaviour of individuals with the scheme "stimulus - response", i.e. the ability of the organism to respond to the various incentives of environment. Thorndike and Skinner are the most prominent representatives of these theories. Skinner's analyses show that the impact of the environment determines our behaviour. In his opinion all human behaviour is due to external stimulus so people's actions are defined by their experiences, and their behaviour is determined and controlled by the external environment.

In the second half of the 20th century the motivational concepts of Kelly (1955), Hekhausen (1955), Atkinson (1964), and McClelland (1971) postulated the leading role of the mind in the determination of human behaviour. The representatives of this direction defined motivation as an impulse drive. It is to achieve certain results obtained through the abilities - namely, willingness to succeed and to avoid failure. We call these theories Cognitive theories of motivation.

In the last decades of the 20th century the point of view that the behaviour of individuals depends on complex interactions between factors of the internal environment of the individual and the external



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environment became popular. The culmination in the development of this concept marked the so-called classical behavioural school and turned into social cognitive theory of motivation. According to Albert Bandura people do not depend on the influence from external forces, and appear as free human beings. Regarding the problem of motivation, emotions and actions, an individual could be taught to control events in his own life. Julian Rotter assumed that man was an active participant in the events in his life. His theory provides that the main types of behaviour can be learnt in different social situations. Rotter believes that human behaviour is guided by a desire to achieve the desired objectives. Rotter considers people as "targeted individual minds" who seek to minimize their behaviour and to maximize incentives and penalties.

3. Positive reinforcements and their influence on motivation

This paper presents the results of the research on the influence of positive reinforcements on motivation for education and training activities which ensued from the question – “Does motivation by rewards lead to a better performance at the university?/ To what extend your motivation derive from the superiors rewards to get a better performance at the university?”. The cadets, who graduated in the academic years 2013/2014, 2014/2015, and 2015/2016, were the basic target group that was interviewed. First-year cadets and students who started their training in the academic year 2013/2014 were included as control groups for comparison. [6, 7, 8]

Recruiting information regarding the survey is carried out through a combination of research methods. The main method of the study is empirical survey conducted in a real educational environment. Mathematical and statistical methods are used for processing and analysis of survey results and their graphical representation. [3, 4, 5]

Table 1 Comparison between the levels of agreement with the statement that motivation through rewards leads to achieve better results
/all studied groups of respondents/

Respondents	Consent, %	Indifference, %	Dissent, %
Cadets 1st academic year 2013/2014	66	13	21
Students 1st academic year 2013/2014	81	10	9
Alumni Cadets 2013/14	60	21	19
Alumni Cadets 2014/15	67	21	12
Alumni Cadets 2015/16	58	18	24



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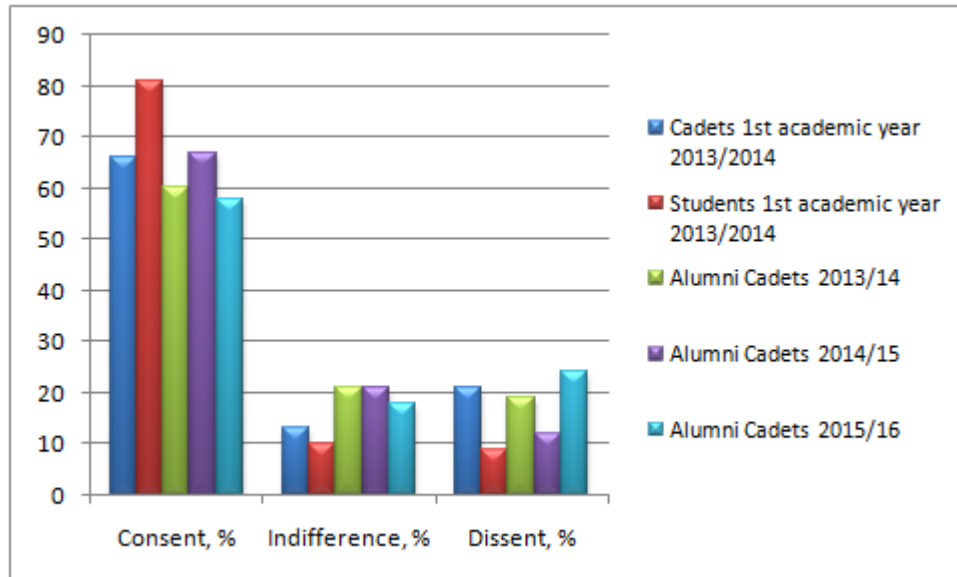


Fig. 1: Comparison between the levels of agreement with the statement that motivation through rewards leads to achieve better results /all studied groups of respondents/

The comparison between the levels of agreement with the statement that motivation through rewards leads to achieve better results is shown on the first figure. In taking into account only alumni cadets' result we can see that the highest level of consent with the statement motivation through rewards, given by academic and command staff, leads to achieve better results is expressed cadets who graduated in 2014/2015. The second position is for alumni cadets who graduated in 2013/2014, while the third position is for alumni cadets who graduated in 2013/2014. It is visible that all of them are consent with that that positive stimuli of motivation will lead to good results at any activity – education, training process and military activities at the university. When we include the control groups we can find that the results become a little different. The highest level of consent is expressed by the students 1st academic year 2013/2014 of their education. The data which from the control group of cadets and students and the cadets who graduated in 2014/2015 are close in value. These results show the relationship of anticipation / first academic year /and the final result. They are roughly covered for the cadets if we exclude civilian learners who are a separate group that is not subject to strong external control.

Undoubtedly, all theories of motivation support the relationship between award-motivation-result. Typically, it is described in the following dependence - we increase the positive reinforcement - we assure the motivation for human activity - we increase the result. This, of course, cannot be an endless process, but it has its own natural end, i.e. from a certain level onwards, even increasing the awards/stimulus/positive reinforcement would not lead to improvement in the end result, as human mental and physical abilities have their limitations.

For the purposes of our research, it is more important here that our learners consider that positive motivation is the way that will lead to positive results rather than coercive measures imposed on them by academic or command staff.



A detailed description and comparison of the groups of objects studied was then made in the study.

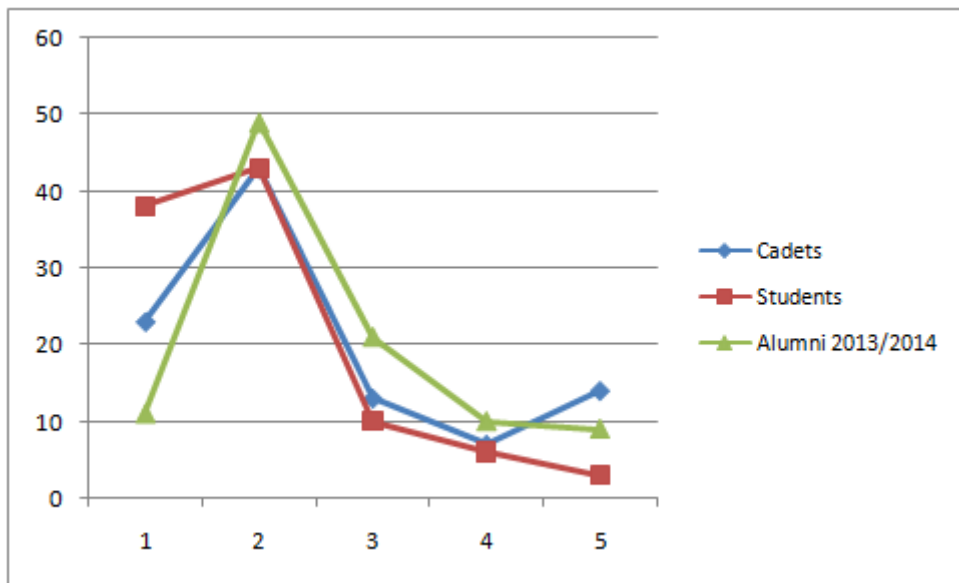


Fig. 2: Comparison of measuring the degree of dependence between learning motivation and positive reinforcements 2

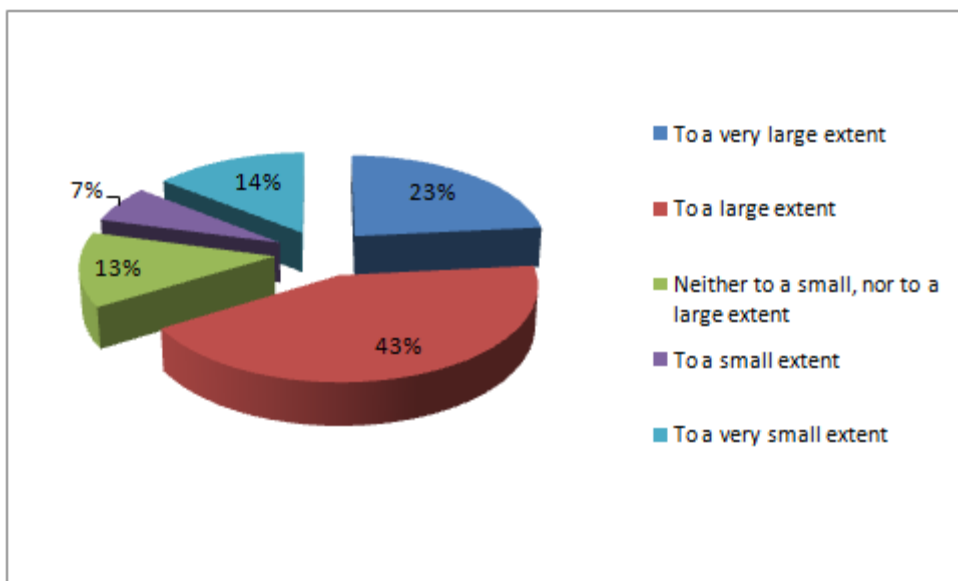


Fig. 3: To what extent your motivation derive from the superiors rewards to get a better performance in the academy? Cadets 1st Academic Year of Training 2013/2014 Academic Year



Figure 2 shows the Comparison of Measuring the degree of dependence between learning motivation and positive reinforcements according to the answers given from cadets, students and alumni cadets from 2013/2014 Academic Year. It was important to be done such a comparison because to exclude the influence of periods of time. It is shown that the alumni cadets are agreeing to a large extent with the statement.

Figure 3 shows the answers from the Cadets 1st Academic Year of Training 2013/2014 Academic Year to a question: "To what extent your motivation derive from the superiors rewards to get a better performance in the academy?" It shows the following distribution – 23% of the respondents are agreeing to a very large extent, and 43% of the respondents are agree to a large extent, which shows a significant percentage of consent – 66%. Indifference is expressed by 13% of the respondents, 7% of the respondents are agree to a small extent and 14% of the respondents agree to a very small extent, which is quite a significant result.

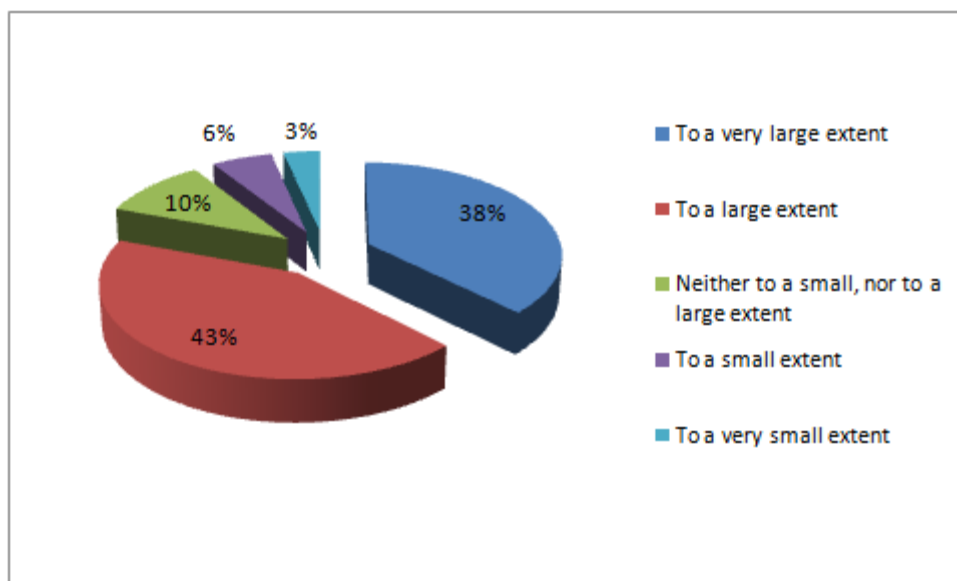


Fig. 4: To what extent your motivation derive from the superiors rewards to get a better performance in the academy? Students 1st Academic Year of Training 2013/2014 Academic Year

Figure 4 shows the distribution for students. 38% of the respondents are agreeing to a very large extent, and 43% of the respondents are agreeing to a large extent, which shows a significant percentage of consent – 81%. Indifference is expressed by 10% of the respondents, 6% of the respondents are agree to a small extent and 3% of the respondents agree to a very small extent, which is very low as a value.

The data analysis shows that the consent of cadets and students in their first academic year of training is not quite equally but similarly. We can find it in the data which are presented in the table and figure below.



Table2. Comparison of the degree of dependence between learning motivation and positive reinforcements - students and cadets 1st Academic Year of Training 2013/2014 Academic Year

To a very large extent	To a large extent	Neither to a small, nor to a large extent	To a small extent	To a very small extent	as %
23	43	13	7	14	Cadets
38	43	10	6	3	Students

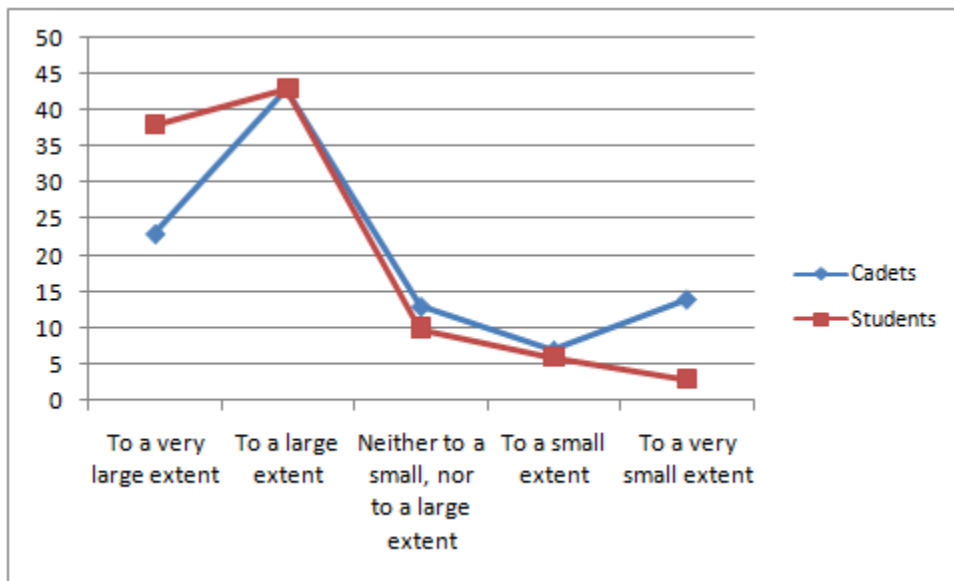


Fig. 5: Comparison of Measuring the degree of dependence between learning motivation and positive reinforcements – Control Groups

When we form a common result for the two groups, we can see the importance given by the learners as a whole to the positive reinforcements at the beginning of their training. This tendency is preserved, albeit with variable value over the years, until the graduation of the trainees. See figures 6, 7 and 8.

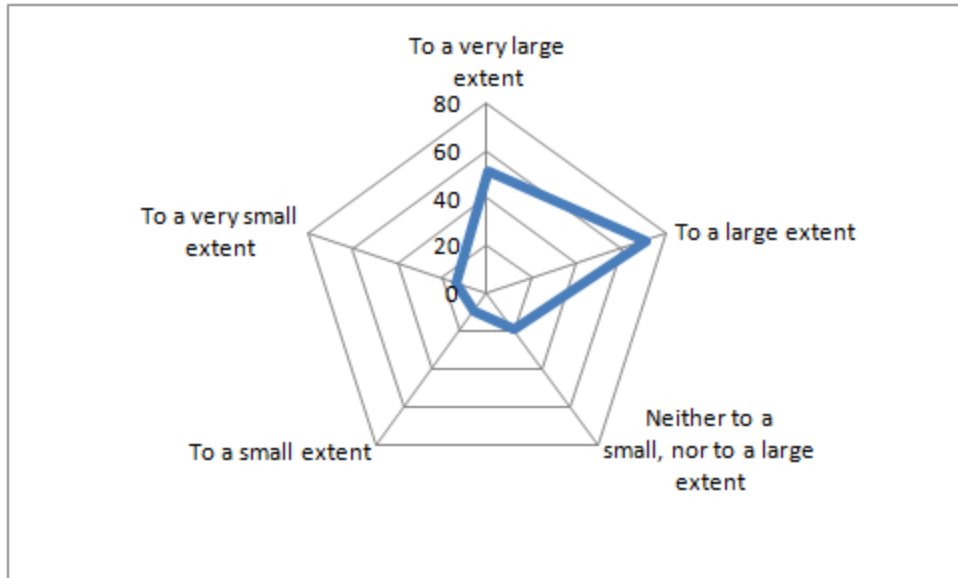


Fig. 6: Measuring the degree of dependence between learning motivation and positive reinforcements- Control Groups - General Presentation

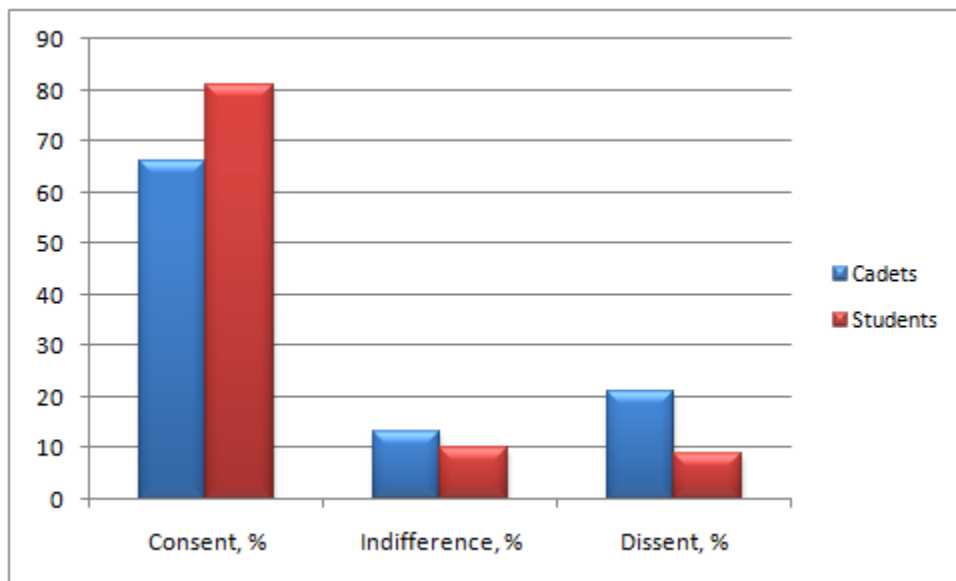


Fig. 7: Levels of agreement with the statement that motivation through rewards leads to achieve better results - Control Groups



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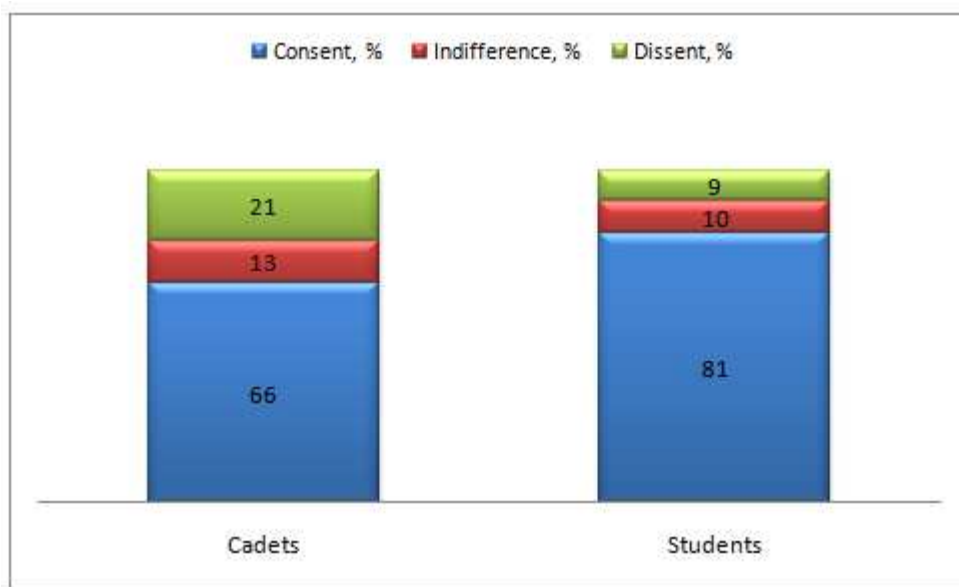


Fig. 8: Comparison between the levels of agreement with the statement that motivation through rewards leads to achieve better results - Control Groups

4. Conclusion

Conclusions can be drawn from the above-mentioned results. The motivation and behaviour of individuals can be effectively changed in the way of supporting the desired effects. Motivation is higher when individuals receive rewards. People are motivated by what they expect to get as a result of their action or behaviour.

In every aspect motivation through rewards implies positive emotions and satisfaction for the individual. It is no accident that the principle of hedonism is that one seeks to reduce the pain and any negative emotion or action directed at himself, and at the same time to increase the pleasure, positive emotions and actions. At the same time, a study of such magnitude could be developed and included a study of individual human needs. Of course, this is a huge amount of work and it is not just for an author, but could be for a whole team of researchers. Consideration could be given to: physical and mental needs, needs for achievement, social relations or autonomy, self-defence, leadership, influence and control over others, avoidance of failure, assistance or support people in need, seeking help or sympathy from others, establishing relationships, defining ideas and concepts and many others which are important in the training process..

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The Role of Economics in Cartel Detection. A Review of Cartel Screens

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Abstract. *In their desire to gain market share and profit, companies often resort to certain anti-competitive practices. Among them, it is well known that cartels are considered the most serious infringement of competition law. Cartels aim to increase their prices and profits at the expense of the consumers' welfare by avoiding the risks of competition and reducing the uncertainty in the market.*

In order to uncover cartels, screens can be a useful tool for competition authorities, using them to support opening an investigation or to filter industries prone to anticompetitive behaviour for further investigation. Screens can also help authorities to estimate the duration of the infringement, by identifying the starting point and the ending of the respective practice.

This paper reviews the main screens identified in the empirical literature and also used by competition authorities in order to uncover firms' behaviours which are more likely to be consistent with collusion than with competition.

Keywords: competition, cartel detection, empirical screens.

Classification JEL: L41, D43, C40.

1. Introduction

Over the last decades, many cartels were uncovered and prosecuted by competition authorities, both at European and national level. It is well-known that cartels are prohibited by Article 101 of the Treaty of Functioning of the European Union and, in Romania, by Article 5 of the Romanian Competition Law no. 21/1996. Cartels are *per se* illegal and should be seriously sanctioned since they are, by their nature, harmful to consumers.

As cartels are the most serious infringement of competition law with the highest impact on the consumer's welfare, the importance of cartel detection significantly increased in the last years and competition authorities approached it by multiple ways: the leniency policy, complaints, the use of external information, promoting reward programs, working with procurement officials and other regulatory and enforcement agencies and, lastly, using empirical economic analysis and screens.

The main tools used by national competition authorities and the European Commission for cartel detection is the leniency policy, complaints and external information. Even reactive methods are



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successful in many jurisdictions, especially leniency, many competition authorities have begun to look for alternatives in order to search for cartel agreements and economic analysis has become extremely important in cartel cases.

Frequently, the analysis of market data can differentiate between a collusive environment and a competitive one. Nevertheless, a suspicious behaviour on a market detected using economic analysis does not amount to smoking gun evidence, but to one which requires an in-depth investigation. It is thus essential to carry on further research in order to establish an actual violation of competition law. Therefore, economic analysis can be considered a complementary tool to the traditional tools of detecting cartels, namely leniency, complaints and external information.

The rest of the paper is structured as follows: the following section provides a review of the cartel detection methods used by competition authorities, highlighting the importance of economic analysis, while the third section focuses on describing screens based on economic data that can flag markets prone to anticompetitive behaviour or markets where potential cartel behaviour already occurred. The fourth section presents the limitations of cartel screens and the last section concludes.

2. Methods of cartel detection

Generally, cartel detection methods can be divided in two categories: reactive methods and proactive methods. While reactive methods are based on information provided to competition authorities by third parties, proactive methods refer to the situations when the competition authority engages in the detection activity on its own initiative. An overview of the different methods of cartel detection is presented in Figure 1.

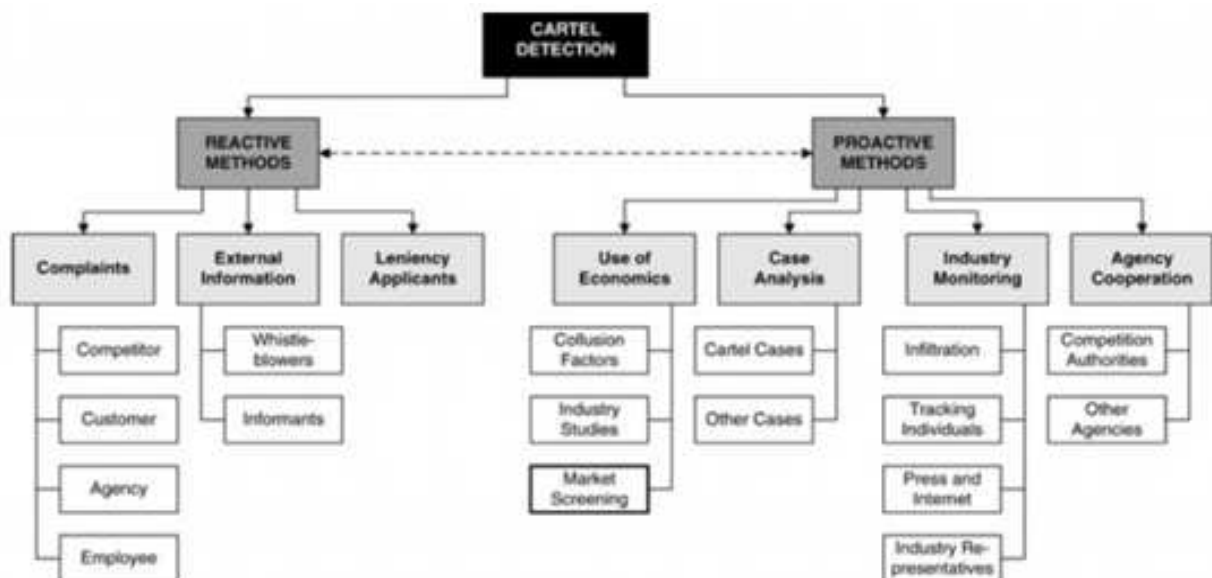


Figure 1. Methods of cartel detection
Source: HüscheIrrath (2010).



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As shown in Figure 1, reactive methods include leniency applications from cartel members, external information received from whistle-blowers or other informants and complaints which can be filed by competitors, customers, other agencies or current or former employees. On the contrary, proactive methods provide a variety of means for competition authorities to detect cartels. Cooperation with other competition authorities or other regulatory and enforcement agencies and the permanent supervision of some industries prone to collusion through infiltration or other means are among them. Furthermore, case analysis and other economic approaches such as industries studies and screening can significantly contribute and increase the detection of cartels.

Over the last years, economic analysis in general and screenings in particular have become increasingly important in cartel cases. Competition authorities and other agencies around the world have begun to use screens more and more to detect possible conspiracies and market manipulations.

Experience has shown that cartel screens helped overtime in uncovering hard-core cartels. One successful example where screens were implemented effectively is the case of the London Interbank Offered Rate (LIBOR). In 2008, the Wall Street Journal wrote an article regarding an alleged manipulation of the USD LIBOR by major international banks. Later in the same year, Abrantes-Metz et al. (2008) flagged the possibility of a LIBOR conspiracy and manipulation, through the application of a variety of screens showing that the rate volatility was very low over some periods compared with other similar rates and the banks' quotes were mostly uniform. In addition, the distribution of the second digits of the LIBOR over time was inconsistent with what is known as Benford's Law. These findings triggered subsequent investigations around the world which led to fines for several worldwide banks for manipulating the benchmark rate.

3. Economic analysis in cartel detection

In this section, a series of examples regarding the use of economic analysis in the activity of cartel detection is provided, especially regarding screens.

Cartel screens are classified in the literature in two different categories (Harrington, 2008): structural and behavioural. Structural screening aims to identify markets that are prone to cartel behaviour, while behavioural screening identifies a potential cartel behaviour that already occurred on a certain market. In order to ensure valuable results, structural and behavioural screening should be used in a complementary way: the first step is the structural screening which serves to identify markets and industries where it is more likely that a secret agreement occurs, so that competition authorities further proceed with behavioural screening of suspicious markets, which involves more data, resources and which usually has a higher degree of complexity.



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3.1. Structural screens

The purpose of structural screening is to identify markets where anticompetitive behaviour is more likely to appear. In other words, there are markets whose conditions can lead to or facilitate anticompetitive behaviour and therefore deserve additional attention. Structural screens are based on a variety of market information such as number of firms, entry barriers, interaction between firms, demand volatility, market transparency etc., which can indicate markets where collusion is more likely to occur. Economic research has found that cartels are likely to occur in the presence of certain market conditions. These conditions may be structural, supply-related or demand-related (OECD, 2013). Among structural conditions, the small number of competitors, the high entry barriers, frequent interaction between firms and market transparency may facilitate collusion. Demand-related conditions include stable demand, low demand elasticity and buying power. Regarding the supply-related conditions, these ones may be represented by product homogeneity, limited innovation, cost symmetry, structural links, multi-market contacts, as well as frequent contractual relationships between competitors.

An example of structural approach was developed in the United Kingdom. In a report prepared for the UK Office of Fair Trading, Grout & Sonderegger (2005) investigated the structural factors that facilitate the formation of cartels based on both theoretic literature and past evidence from EC and US cartel cases. Moreover, the authors used this analysis in order to predict, the probability of a cartel existence for a large number of sectors using econometric techniques, such as logit model, ordered logit model and OLS model. According to their study, the industries in the UK with high estimated probability of cartel detection, among others, are telecommunications, manufacture of motor vehicles, manufacture of basic chemicals, manufacture of cement, lime and plaster and activities of travel agencies and tour operators.

Another example of structural approach arises from the Netherlands Competition Authority. The authority developed in 2011 an instrument named the Competition Index whose aim is to detect industries that are prone to anticompetitive behaviour. According to Petit (2012), the proposed screening is based on nine economic indicators considered to suggest the probability of an anticompetitive behaviour, which can be divided into four categories: (i) the degree of organization: number of trade association; (ii) prices: prices in Netherlands versus in European Union; (iii) concentration: Herfindal Hirschman Index, number of firms and import rate and (iv) dynamics: market growth, churn rate, survival rate and research & development rate. The competition authority applied this analysis on the entire Dutch economy, which is divided into 500 industries.

In Romania, the Competition Council developed in 2013 a tool in order to measure the orientation of the industries in the national economy towards competition, indicating a degree of closeness to an ideal situation of competition. The Aggregate Index of Competitive Pressure relies on 20 primary indicators, divided in four categories of importance. Each of the 20 indicators are measured through a seven point scale, where the lower value of the scale indicates the less



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favourable situation for competition and the highest value of the scale indicates the most favourable situation for competition. The main indicators included in the Aggregate Index by the Romanian Competition Authority are the following: lack of barriers to entry, number of active undertakings, concentration degree, innovation degree, transparency degree, the price elasticity, the product homogeneity, the existence and impact of business associations, the market share symmetry, the existence of structural connections between competitors. Several industries in the national economy have been assessed annually since 2013 by the competition authority. The Romanian industries most prone to anticompetitive behaviour are, according to the last Romanian Competition Council analysis in 2016, production and sale of cement, notary services, banking services associated with debit cards, production of natural gas and railway passenger transportation.

3.2. Behavioural screens

In the literature, behavioural screening is defined as “the process of flagging unlawful behaviour through economic and statistical tests” (Abrantes-Metz, 2013, p. 2) or “a process whereby industries are identified for which the existence of a cartel is likely” (Harrington, 2006, p.2). Usually, detection screens are based on a theory of an alleged illegal behaviour and use market data such as prices, costs, margins, quantities or market shares, aiming to differentiate between a collusive environment and a competitive one.

Several behavioural screens were identified in the economic literature as able to search for collusive patterns, often called markers. Moreover, competition authorities have used screens as a tool for detecting collusion and in some cases screening efforts increased in the last years.

3.2.1 Markers based on prices

The first marker which can suggest the existence of a cartel behaviour is the price level. If a cartel is effective, it is likely to have an effect on prices. Therefore, a higher average price may be indicative of collusive behaviour, especially when the price increase does not appear to be explainable by an increased cost.

Various methods are available in order to quantify the effect of the cartel on prices. A method widely used among economists is to compare prices during the cartel period with prices outside this period or to compare prices in the cartelized market with prices on a different but similar geographic market. Comparison with other products can be done as well, as long as the products belong to a similar market and are not under investigation. However, in these cases, it is assumed that nothing but the cartel affected price, this assumption being a restrictive one. In order to solve this problem, the “differences-in-differences” method may be implemented. This methodology consists of comparing two groups of individuals: the “treatment group” and the “control group” with the purpose of comparing the price evolution of the products affected by the cartel, defined as the “treatment group” during and outside the alleged cartel period with the price evolution of similar products not affected by the anti-competitive behaviour in question, namely the “control group”. The hypothesis of this methodology is that the price evolution of products belonging to the “control



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group" over time coincides with the price evolution of the products belonging to the "treatment group" in the absence of coordination. In other words, it is assumed that all the factors that affect the "treatment group" similarly affect the "control group". Thus, it is computed the difference of the "treatment group" prices during and outside the cartel period and the difference of the "control group" prices for the two periods, followed by a difference of those differences. The importance of this analysis lies in its ability to better control the effect of factors that can influence the price over time (the effect of eventual cost changes, demand, macroeconomic conditions, market characteristics) while eliminating them. Alongside comparator-based methods, the "but for" price can be estimated using a regression analysis. In this case, the econometric model should be set up so to consider the most significant factors determining supply and demand conditions.

In order to show the effect of a cartel on prices, Figure 2 illustrates the lysine prices during the global lysine cartel of 1992-1995 for the United States and European Union, along with lysine cost for the same period.

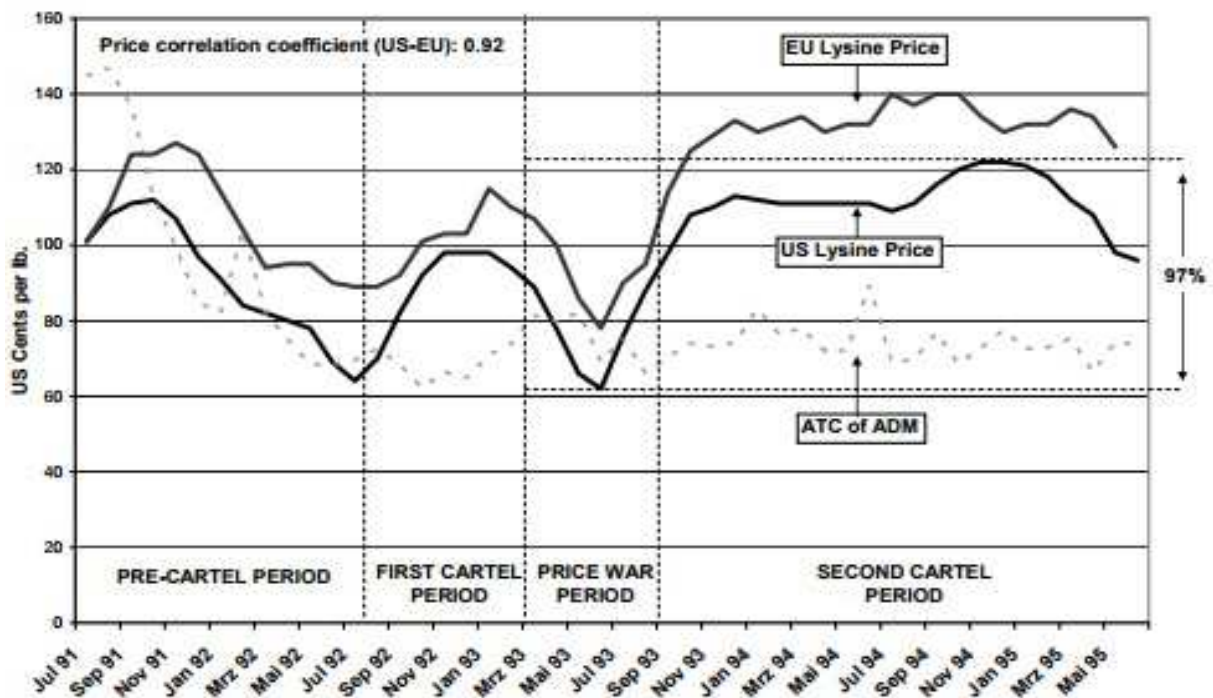


Fig 2. Average monthly lysine prices in the United States and the European Union between July 1991 and June 1995, along with lysine cost

Source: Connor (2002).

Another marker indicating collusion is represented by prices that are strongly correlated across firms. Even though firms may charge the same price in a competitive environment as well, greater



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suspicious may appear when uniformity applies also in closely related neighbouring markets. For instance, in an industrial and medical gases cartel in the Netherlands prosecuted by the European Commission, the cartel members agreed not only a common price for gas but also transportation costs and a common rate for renting a gas cylinder.

Abrupt changes in price that cannot be explained by demand or cost evolution also may raise suspicions regarding possible cartel behaviour. Green and Porter (1984) consider that periodic sharp price drops might indicate collusion, based on the assumption that sharp drops followed by sharply rises might reflect the instability of a cartel agreement.

3.2.2 Markers based on variance

A lower price variance may also indicate collusion. Low price variability and insensitivity to cost generally appear in the presence of a cartel for a number of reasons. For example, frequent price changes are costly and would make deviations from the agreement harder to detect.

There is evidence that variance screen could help competition authorities in their efforts to detect cartels. This approach of testing for lower volatility is conducted in Abrantes-Metz et al. (2006). In this paper, authors assess the price evolution over time around the collapse of a bid rigging cartel prosecuted by the Antitrust Division of the US Department of Justice in the sale of frozen seafood to military installations and find that following the cartel period the mean price decreased by 16% while the standard deviation of price increased by 263%. As shown in Figure 3, the frozen perch prices significantly decreased when the competition authority triggered the investigation and, thereafter, the price began to change in the same way as the cost, having a greater volatility. A similar approach is taken in Esposito and Ferrero (2006) where a variance screen was applied on two Italian cartel cases from two different sectors, namely the motor fuel market and the personal care and baby food products market. In both cases, the authors reach the conclusion that the price variance screen would successfully have detected these two cartels before the competition authority's findings. Bolotova, Connor and Miller (2008) use ARCH and GARCH models in order to assess the impact of two cartels on prices and variance in the pre, post and cartel periods. Authors find that lysine price increased by more than 25 cents per pound and its variance decreased during the cartel period relative to non-cartel periods and, regarding the citric acid, its price increased by approximately 9 cents per pound compared to the pre-cartel and post-cartel periods, but found increased variance in the price of citric acid during the cartel period.



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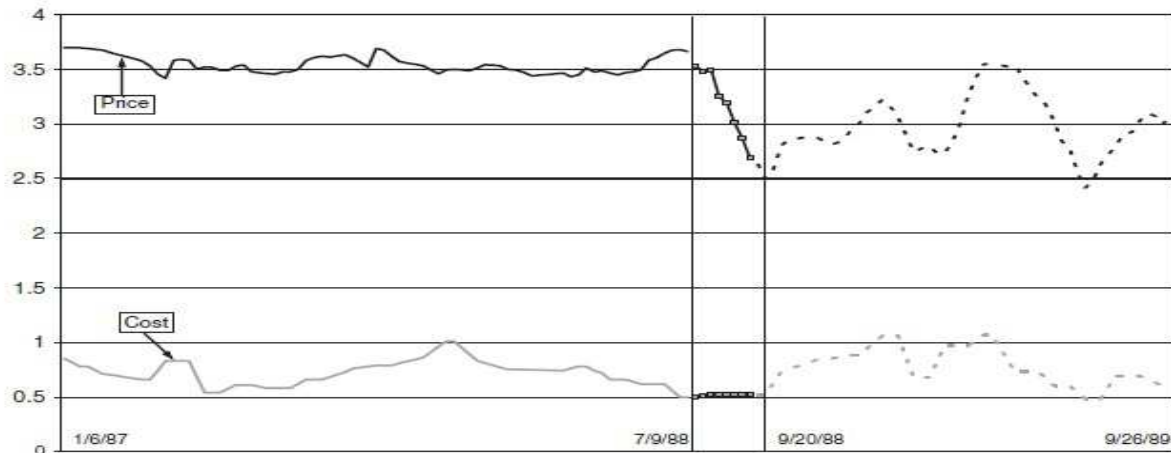


Fig. 3. Frozen perch prices and cost: Jan. 6, 1987- Sept. 26, 1989

Source: Abrantes-Metz et al. (2006).

3.2.3 Markers based on market-share

Market shares highly stable over time also serve to identify collusion. Stable market shares may result from agreements to share geographic markets or customers. Moreover, cartel members may agree to freeze market shares at their pre-cartel levels, resulting in stable market share for the future period. There are several examples of previous uncovered cartels where market shares were frozen at the pre-cartel level, including the cartel for copper plumbing tubes, the cartel for organic peroxides cartel and the cartel for vitamins A and E and folic acid.

3.2.4 Markers for bid rigging conspiracies

As public procurement accounts, on average, for 15% of the global GDP and is generally awarded through competitive bidding procedures, a number of empirical studies have analysed collusive behaviour in public procurement. Likewise, competition authorities pay close attention to this sector and are increasingly involved in detection efforts and also in advocacy in order to augment awareness of bid rigging risks.

Empirical literature and competition authorities have identified overtime several screens to assess markets and identify behaviour that may indicate collusion in public procurement. Naturally, in a tender process, firms should act independently and their bids should properly reflect their costs in the competitive market. Hence, a useful tool for competition authorities is looking for improbable events in bid auctions, such as identical bids, high correlation between bids or unexpected and significant differences between winning and losing bids.

To the same effect, OECD issued fighting bid rigging guidelines providing a list of collusive markers that may be used in order to detect big rigging cartels. According to OECD (2009), there are



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signs and patterns that can indicate the possibility of a bid rigging, such as when the same firm is often the lowest bidder, when some suppliers unexpectedly withdraw from bidding, when certain firms always submit bids without winning once, when the winning bidder repeatedly subcontracts work to unsuccessful bidders or when the winner does not accept the contract and is later found to be a subcontractor. As for the same document, there are also price patterns that can help uncover collusion. Identical pricing, sudden elimination of anticipated discounts, increases in price that cannot be explained by cost increases, large differences between the price of the winning bid and other bids or large differences between two bids of the same supplier for two similar contracts are among the behaviour patterns that might suggest that firms are coordinating their behaviour in bid auctions.

4. Limitations of cartel screens

In the following, limitations of empirical screens are discussed. It is important to bear in mind that the effective implementation of a cartel screening depends to the extent to which the screening is properly developed and applied.

First, the quality of data sets is fundamental in cartel screening. Poor quality data cannot lead to a successful detection activity. For this reason, access and quality of data should be taken into consideration when deciding whether to implement such actions.

Second, cartels are difficult to detect because they can take many forms and the industries may significantly differ one from another. There is no “one size fits all” model for cartel detection. The empirical model should always be tailored according to the alleged form of the cartel, whether it is price fixing, market allocation, bid rigging etc. Moreover, economists should consider all relevant variables and specifications for the case at hand when designing an econometric model.

Finally, screens may lead to both false negatives and false positives. In other words, they may fail to detect cartels or may incorrectly identify some markets or behaviours that are not anticompetitive. Hence, it is clear that evidence resulting from economic screening is not sufficient to prove guilt, requiring an in-depth investigation in order to establish an actual violation of competition law. Nevertheless, an empirical screening which indicates collusion on a certain market is typically enough for a competition authority to trigger an investigation.

5. Conclusions

An effective anti-cartel enforcement policy should represent a priority for competition authorities around the world. The leniency, the use of complaints and external information, working with procurement officials or rewarding whistle-blowers are effective methods used in cartel detection, but competition authorities should become more proactive and aggressive in their cartel detection in order to deter cartel formation.

The use of screens to flag possible cartel behaviour is a beneficial tool, supporting competition authorities in opening an investigation or in filtering industries prone to anticompetitive behaviour for further investigation.



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Although leniency policy is very efficient in detecting cartels, proactive methods are necessary especially in order to uncover cartels whose members have no reason to apply for leniency. In addition, small economies still have limited experience with leniency programs. By developing and implementing proactive economic methods of cartel detection, the cartel activity may be less tempting for undertakings. Moreover, proactive methods may produce positive externalities to the reactive methods, improving their efficiency.

Even screening for cartels may be difficult and have some limitations; further research shall be made in order to become a powerful tool for competition authorities and to play a higher role in competition enforcement.

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Roles of communities of practice for the development of the society

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Abstract. At present one of the most important concepts in social learning theory is the idea of communities of practice (CoP), which describes a learning theory with a strong relationship to the social construction of knowledge. A CoP is a collection of people who engage on performing a common activity for the welfare both of members of the community and the society. In modern society, it is used in some form of high levels of skills, knowledge and proficiency to perform the jobs properly. It plays an important role in the sharing of knowledge and creating value for both their members and organizations. A CoP is composed of three crucial characteristics: domain, community, and practice, which provide a guide to the development of community. The paper describes structural components, basic characteristics, and essential elements of a CoP. It also highlights benefits, importance, and the challenges and barriers of a CoP. In addition, it describes virtual CoP in brief. The main aim of this study is to explore the ins and out of a CoP in some details

Keywords: Communities of practice, knowledge management, social learning, virtual communities.)

JEL Codes: M1

1. Introduction

A communities of practice (CoP) is a group of people who share a passion, a concern or a set of problems regarding a particular topic, and who interact regularly in order to deepen their knowledge and expertise, and to learn how to do things better. A CoP is characterized by mutual learning, shared practice, inseparable membership and joint exploration of ideas. For example, a tribe learning to survive in any situation is a CoP (Wenger, 2004; Ranmuthugala et al., 2011). Some more examples of the knowledge-based social structures are back when humans lived in caves, the corporations in ancient Rome, physicians and nurses, priests and nuns, etc. (Agrifoglio, 2015). It can be found in schools, universities, research institutes and business organisations (Nis-tor et al., 2012).

The US Agency of International Development (USAID) defines CoP as (USAID, 2004): “Informal groups (organized around specific Agency functions, roles or topics such as Program Planning and Strategic Planning, Contracting Officers, Gender) of USAID practitioners able to share the knowledge and expertise needed to more effectively perform their jobs.” In brief, a CoP is a group of people who share a common



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pursuit, activity or concern. Members of a CoP do not necessarily work together, but form a common identity and understanding through their common interests and interactions (Oreszczyn et al., 2010).

The term community suggests that the group is not constrained by typical geographic, business unit or functional boundaries but rather by common tasks, contexts, and interests. In other words, a community can be composed of people with similar enthusiasms, interests and purpose, and this type of community is said to possess internalized 'shared understandings', and 'tacit and codified understandings' (Allen, 2000). The word practice implies knowledge in action; how individuals actually perform their jobs on a day-to-day basis as opposed to more formal policies and procedures that reflect how work should be performed. Together the terms community and practice refer to a specific type of social structure with a specific intended purpose (Wenger et al., 2002). Hence, a community consists of a collection of individuals that are oriented to each other and share or refer their activities to norms of the collective (Morgan, 2010).

Defining CoP is not an easy task. Many academics and practitioners have addressed this issue, defining the concept in different ways (Agrifoglio, 2015). The idea of a CoP was originated in the 1980s at the Institute for Research on Learning, which was funded by the Xerox Corporation (Daniel et al., 2004). The term Communities of Practice was coined by Jean Lave (a cognitive anthropologist) and Etienne Wenger (an educational theorist and computer scientist) in their landmark book on Situated Learning, in the context of five apprenticeships: Yucatan midwives, Vai and Gola tailors, naval quartermasters, butchers, and nondrinking alcoholics. They emphasized that learning is not simply the acquisition of propositional knowledge, but rather occurs through certain forms and types of social co-participation, is contextual, and embedded within both a social and physical environment (Lave and Wenger, 1991). Although Lave and Wenger (1991) are recognized as the pioneers of CoP research, the phenomenon was simultaneously investigated by Brown and Duguid (1991), and even earlier by Orr (1990), by Constant (1987) and by Lave (1988) herself. The CoP, despite being a term of relatively recent invention, has become increasingly utilized by organizations as a means of improving performance. A CoP is known as various names, such as, learning networks, thematic groups, or tech clubs (Wenger & Wenger, 2015). Collier and Esteban (1999) define the CoP as "Practice employ active participation and decision-making by individuals, as opposed to separated decision-making that is present in traditional organizations. The CoP is the sum of both stakeholder interest and the development of individuals within the community."

Over time, the concept of CoP has advanced from a descriptive one to a more prescriptive one (Lave & Wenger, 1991; Wenger et al., 2002). Later Wenger (1998) developed a detailed understanding of the dynamic operation of a CoP and he expressed that a CoP is an important place of negotiation, learning, meaning, and identity. Three dimensions of a CoP are: (a) members interact with one another, establishing norms and relationships through mutual engagement, (b) members are bound together by an understanding of a sense of a joint enterprise, and (c) members produce over time a shared repertoire of communal resources through language, routines, artefacts and stories (Wenger, 1998). Although CoP was first mentioned by Lave and Wenger (1991), but the idea has existed since Homo sapiens evolved 50,000 years ago and the phenomenon has been investigated with reference to research on the relationship between knowledge and work practice (Agrifoglio, 2015). At present there has been a growing research involved in the literature emphasizing the importance of CoP as a hub for information exchange, knowledge creation and organizational innovation (Daniel et al., 2004).



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A CoP is not merely a club of friends or a network of connections between people. It has a long history of successful use to equip communities for designing their own programming, manage external resources, and promote learning. Not everything called a community is a CoP. For example, a neighbourhood is often called a community, but is usually not a CoP (Wenger, 1998). In a CoP a newcomer learns from old-timers by being allowed to participate in certain tasks that relates to the practice of the community (Lave & Wenger, 1991). No one can force people in a CoP to learn together or to share information (Stamp, 1997).

A CoP may be co-located, online or a mixture of both. A co-located CoP indicates that it is largely offline and geographically connected. An online CoP refers that it has a significant online component where members are most often geographically unconnected (Lai et al., 2006).

At present organizations are simultaneously incorporating CoP into internal knowledge management systems and spanning elements from the external environment (Kerno, 2008). Theories about CoP are useful for understanding the social processes of learning and identity formation, local practice, tacit learning, sense making and indigenous knowledge (John, 2005). A CoP is an intrinsic, essential condition for the existence of knowledge (Lave & Wenger, 1991).

A CoP has become more common in recent years because of the way they provide structural support and consistent avenues for contact among experts, as well as their overall service to surrounding communities (Wenger & Wenger, 2015). Purposes of a CoP are to create, expand, and exchange knowledge to develop individual capabilities (Wenger et al., 2002). At present in many organizations, a CoP becomes an integral part of the organization structure (McDermott & Archibald, 2010).

2. LITERATURE REVIEW

Etienne Wenger stated that the structure of the CoP is based on three components; domain, community and practice and the CoP unifies three components: knowledge, people and experience (Wenger, 1998).

T.M. Schwen and N. Hara (2003) outlined four stages of design necessary to ensure that a CoP is properly designed for an online environment: phase 1) possible design interventions, phase 2) analysis, phase 3) design, and phase 4) evaluation and revision.

C. J. Bonk, R. A. Wisner and M. L. Nigrelli (2004) listed ten key principles of a CoP as; sharing goals, trust and respect, shared history, identity, shared spaces for idea negotiation, influence, autonomy, team collaboration, personal fulfilment, and events embedded in real world practices, and rewards, acknowledgements, and fulfilling personal needs.

Thomson et al. (2013) and Lees and Meyer (2011) demonstrated that social networks are a foundational aspect of CoP models and CoP can support boundary crossing and access to other networks.

N. Hara and R. Kling (2002) have studied two public defender offices and have revealed that a CoP displays a sense of shared vision, a supportive culture when problems or issues arise, a great deal of worker autonomy, professional identity, a common practice or set of work procedures, and opportunities to share meaning and collectively build knowledge. Buckley et al. (2017) emphasize on exploring students' preliminary attitudes towards CoP to determine to what extent are learners willing or prepared to share knowledge within institutions of higher education to empower learning and knowledge sharing within those institutions. They investigate the concept of CoP and the potential for their usage in the higher



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educational institutions environment. But, the specific guidance to form CoPs in higher educational institutions does not exist.

Selyf Morgan has applied a CoP approach to social learning processes among farmers in Wales, and considers how, or whether, this approach may be useful for state extension services. He has wanted to show the CoP framework has been used in differing circumstances to attempt to extract value from extant social capital, to manage dispersed expertise, and to enable more efficient and coherent development. He has also emphasized that a CoP framework applied to processes of social learning within relatively unstructured and dispersed communities, such as those of organic farmers, places a focus on the intangible definition and benefits of community development (Morgan, 2010).

Geetha Ranmuthugala, Jennifer J. Plumb, Frances C. Cunningham, Andrew Georgiou, Johanna I. Westbrook and Jeffrey Braithwaite have discussed the information on the purpose of establishing a CoP, its composition, methods by which members communicate and share information or knowledge, and research methods used to examine effectiveness was extracted and reviewed. They also have examined evidence of whether or not a CoP leads to a change in healthcare practice (Ranmuthugala et al., 2011). Andrew M. Cox offers a more critical review of four seminal works in different ways in which the term CoP can be interpreted (Cox, 2005). Steven Walczak elaborately discussed the necessity of a CoP in a healthcare organization (Walczak, 2010).

Barab et al. (2004) certified a CoP as a “Persistent, sustained social network of individuals who share and develop an overlapping knowledge base, set of beliefs, values, history, and experience focused on a common practice and/or mutual enterprise.”

E. Lesser and J. Storck (2001) have suggested that the obligations, norms, trust, and identification that come with being a community member enhance the members’ ability to share knowledge with and learn from community participants.

Botha et al. (2008) summarize the key factors regarding a CoP as follows:

- learning is a social phenomenon,
- knowledge is integrated into the culture, values, and language of the community,
- learning and community membership are inseparable,
- we learn by doing and therefore knowledge and practice are inseparable, and
- the best learning environments are created when there are real consequences to the individual and his/her CoP.

3. METHODOLOGY

This is a review study. The paper is prepared on the basis of secondary data. We have used websites, books, previous published articles, conference papers, case studies and various research reports to prepare this paper. In this study we have tried to provide an analysis of a CoP and also a virtual CoP by indicating the importance, challenge and barriers of a CoP.



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4. TYPES OF ACoP

Wenger et al. (2002) and Dubé et al. (2006) provided the types of a CoP as: small/big, short-lived/long-lived, co-located/distributed, homogeneous/heterogeneous, inside boundaries/across boundaries, spontaneous/intentional, unrecognized/institutionalized and a specific type of CoP, virtual CoP. To identify the various forms of a CoP, R. Agrifoglio (2015) and some other scholars have select the nine most meaningful structural features of a CoP and classify them into four categories as: i) demographic, ii) organizational, iii) individual, and iv) technological.

4.1. Demographic Category

Demographic category is identified in the following three types of communities:

Young or old: Age defines the period of time and we can place the duration of the CoP along a continuum from young to old. Dubé et al. (2006) distinguish five stages of development of a CoP as; potential, coalescing, maturing, stewardship and transformation. They assume that young communities are usually in the early stages, while old communities are in later stages.

Small or big: A CoP is considered small or big depending on the number of members involved in them. Wenger et al. (2002) assume that small communities involve only a few specialists, while big communities consist of hundreds of people.

Short-lived or long-lived: The lifespan of a CoP varies from short-lived (temporary) to long-lived (permanent). Artisans, boat makers, etc., exist over centuries and they are of course long-lived, because they are created on a permanent basis with no definite time frame in mind. On the other hand, COBOL programmers are gathered on a temporary basis to accomplish a specific purpose and they are of course short-lived (Wenger et al., 2002; Dubé et al., 2006).

4.2. Organizational Category

Organizational category is identified in the following three types of communities:

Spontaneous or intentional: A CoP has existed for ages, born in response to people's spontaneous need to group, share ideas, and be helped. For example, artisans, boat makers, violin makers, gangs of street cleaners, etc. are spontaneous communities (McDermott, 1999). Sometimes communities are launched to meet the needs of organizations for specific knowledge and skill resources, which may be intentionally established by management (Dubé et al., 2006).

Inside boundaries or across boundaries: A CoP often exists either entirely within organizations (inside boundaries), and in particular within a business unit or across business units, or across organizational boundaries (across boundaries). Across-boundaries communities allow a greater number of people to join in the community (Wenger et al., 2002).

Unrecognized or institutionalized: Workers may join in the communities that are completely formalized, less formalized or not formalized within organizations. With reference to the degree of institutionalized formalism, a CoP varies in its relationships to organizations, ranging from unrecognized (invisible to the organization), bootlegged (visible only to certain groups), legitimized (taken into account by the organization), supported (receiving direct resources) to institutionalized (given an official status and function in the organization) (Wenger et al., 2002).



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4.3. Individual Categories

Individual category is identified in the following two types of communities:

Co-located/distributed: Communities are co-located when members usually meet at the same place or live nearby. When members of a CoP increase then they are not physically located in the same place, but scattered around the world. For example, communities of scientists whose members work for different organizations around the world, regular meet to discuss specific research topics thanks to seminars, conferences and ad hoc meetings held at the same building. But, when communities are distributed, then face-to-face meetings and chances to exchange ideas and share knowledge, become more complicated and expensive for members (Wenger et al., 2002).

Homogeneous or heterogeneous: Communities can be distinguished on the basis of members' cultural background (Wenger et al., 2002). Communities are often composed of people from the same discipline or function (homogeneous) but, sometimes they are composed of members with different backgrounds (heterogeneous). According to Dubé et al. (2006), cultural influence in national, organizational and professional terms is evaluated along a continuum from homogeneous to heterogeneous. Communities are homogeneous where members have similar backgrounds because they come from the same organization, or different organizations with similar cultures, and live in a country with a strongly localized culture. On the other hand, communities are heterogeneous where members have different backgrounds because they come from various organizations and live in a country with a more open culture or with different cultures (Agrifoglio, 2015).

4.4. Technological Category

In this category, it is possible to distinguish face-to-face and virtual communities based on the degree of reliance on Information and Communication Technology (ICT). The ICT has reduced the spatial and temporal distances, enabling people from anywhere and at any time to join the community and perform their practice. When a community uses ICT mostly it can be called virtual, but otherwise face-to-face (Wenger et al., 2002; Metallo, 2007).

5. ESSENTIAL ELEMENTS OF A CoP

A CoP structure, as developed by Wenger, is typically devised with three key elements: domain, community, and practice. These three fundamental elements are useful to distinguish a CoP from communities (Wenger et al., 2002).

Domain: It is a shared understanding of what is important to individuals and the society. It is the area of knowledge that brings the community together, gives it an identity, and defines the key issues that its members collectively want to address. It explores and develops the activities of the community, not a task. It also facilitates the learning process among people (Wenger, 2004). It indicates that the members involved in a CoP will have a shared domain of interest which include general knowledge of a subject or of a troublesome problem happened in their community, which must be strong enough for members to stay committed to the topic. The members in the CoP will have a shared competence in the domain, either from the same discipline or multiple disciplines or from practice (Wenger and Wenger, 2015). Hence, membership implies a commitment to the domain, and a shared competence that distinguishes members from other people. Members value their collective competence and learn from each other, even though



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few people outside the group may value or even recognize their expertise (Cummings and van Zee, 2005). The domain of knowledge is what creates the common ground among community members. The domain of a community affirms its purposes and value to its members and stakeholders. Without a commitment to a domain, a community is just a group of friends (Lamontagne, 2005). For example, the shared domain is the role of strengthening local communities who are facing disasters like an earthquake or typhoon, corruption or terrorism. Hence, the domain creates “The common ground (i.e., the minimal competence that differentiates members from non-members) and outlines the boundaries that enable members to decide what are worth sharing and how to present their ideas” (Li et al., 2009).

Community: In pursuing their interest in their domain, members of a CoP are engaged in joint activities and discussions, help each other, and share information (Wenger, 1998). The community refers to the social structures that encourage learning through interaction and relationships among members. It is a crucial element for an effective knowledge structure, and it is a place in which people help each other to augment their knowledge about a specific practice (Wenger et al., 2002). The members of a CoP do not necessarily work together on a daily basis (Cummings & van Zee, 2005). It is the group of people for whom the domain is relevant, the quality of their relationship, and how the boundary between the group and the wider world is defined. A CoP can develop from a small community whose members work together on various activities, engage in discussions, help each other attend to different tasks, and share information with each other. This community builds relationships collectively among the involved individuals who stand for the same cause and learn from each other. These members interact and work together to learn about a shared domain. It is a community, which is much more than a website or a library. A website in itself is not a CoP (Lave & Wenger, 1991). For example, members of a CoP from three districts of Bangladesh work on ten districts together to prevent addiction of smoking.

Practice: A CoP requires its members to share a common practice. In a CoP the practitioners (members of a CoP) have a shared collection of resources such as, stories, experiences, tools, cases, documents, and problem solving methods, i.e., they share practice. They interact and share with each other to learn how to perform their various tasks efficiently. This takes time and sustained interaction. A CoP brings together practitioners who are involved in doing something. For example, CoP members of an educational institute take aims to learn and improve the quality of education in all educational institutes (Wenger, 2004; Daniel et al., 2013). A group of people who like certain kinds of movies is not a CoP (Wenger, 1998). For a CoP to be an effective knowledge building structure, the practice of the community must not only explore traditional bodies of knowledge, it must also explore the latest advances in the field. It also includes the less tangible principles, rules and frameworks such as a way of behaving, a thinking style and perhaps an ethical stance (Lamontagne, 2005).

The combination of domain, community, and practice enable a CoP to collectively manage and build knowledge. The domain provides a shared focus; community supports and builds relationships that enable learning; and practice grounds the learning and knowledge in what people do (Briard & Carter, 2013). A typical CoP comprises a group of practitioners focusing on a specific subject field, facilitating sharing of information and skills (Cummings & van Zee, 2005).

Corradi et al. (2010) identify four labels with reference to practice as a way of seeing as: i) practice lens or practice-oriented research (Østerlund & Carlile, 2005), ii) knowing-in-practice (Gherardi, 2000;



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Orlikowski, 2002), iii) practice-based perspective (Sole & Edmondson, 2002), and iv) practice-based approach (Carlile, 2002).

6. STRUCTURAL COMPONENTS OF A CoP

Structural components of a CoP are as follows (Wenger, 1998; Wenger et al., 2002; Scott, 2003):

Population size: A CoP can vary from a few specialists to thousands of members. As population size increases, so does the likelihood of subdivision along related characteristics, such as geographic region or subtopic, to optimize membership activity and experience (Scott, 2003). Some CoPs are quite small; some are very large, often with a core group and many peripheral members. Some are local and some cover the globe. Some meet mainly face-to-face, some mostly online. Some are within an organization and some include members from various organizations. Some are formally recognized, often supported with a budget; and some are completely informal and even invisible (Wenger & Wenger, 2015).

Location: A CoP may be co-located or distributed, boundaries may be within businesses, across business units, across organizational boundaries, and formality may be spontaneous or intentional, unrecognized or institutionalized (Wenger et al., 2002).

Longevity: A CoP may be long-lived or short-lived. Development of practice takes time but can vary from a few years to several centuries.

Means of member interaction: Membership in a CoP may be homogeneous or heterogeneous. Oftentimes start among individuals who are acquainted with one another and are collocated, as a CoP requires regular interaction. However, as new communication technologies allow for quicker information exchange, richer media content, and seamless integration of geographically distant members, distributed CoP is rapidly becoming the standard, not the exception.

Product vs. process: A CoP is easier to form with individuals possessing similar information coordinating responsibilities (engineering, marketing, human resources, etc.), as their knowledge and backgrounds are often very similar. However, a CoP can also be formed along product lines, as well, where people with different functional responsibilities, but sharing a common product responsibility, interact.

Intra- vs. inter-organizational: A CoP often arises as a recurring problem is addressed by those who are affected by it within an organization, public or private. A CoP is frequently a useful tool in an inter-organizational setting by assisting individuals employed in fluid, rapidly changing industries. By allowing the exchange of relevant information and technologies among organizations that, individually, might not have the time, resources, or manpower to remain current, employees are able to access a knowledge base of peers.

Wenger describes the structure of a CoP consisting of three interrelated terms as: i) mutual engagement, ii) joint enterprise, and iii) shared repertoire (Wenger, 1998).

Mutual engagement: It consists of through participation in the community. The members establish norms and build collaborative relationships. These relationships are the ties that bind the members of the community together as a social entity.



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Joint enterprise: It consists of through the interactions of members. They create a shared understanding of what binds them together. It is renegotiated by its members and is sometimes referred to as the domain of the community.

Shared repertoire: It is as a part of its practice, the community produces a set of communal resources, which is used in the pursuit of their joint enterprise and can include both literal and symbolic meanings.

7. CHARACTERISTICS AND KEY COMPONENTS OF A CoP

Some common characteristics of a CoP are as follows (Wenger, 1998; Lai et al., 2006; Roberts, 2006; Nickols, 2007):

- Continuity of mutual relationships; may be harmonious or conflicting. Including work-related relationships; may be collegial or strained.
- Practice as the unifying feature of the community.
- Shared ways of engaging in common activities, best practices.
- Membership ranging from novices to old-timers.
- Jargon and shortcuts to communication as well as the ease of producing new ones.
- Rapid flow of information and innovation among community members.
- Absence of introductory preambles as if conversations and interactions were merely the continuation of an ongoing process or ceremonial speech.
- Conversations and other interactions often have the character and feel as if they are simply being continued from where they stopped.
- Problems and other issues quickly framed; little necessity of providing extensive background.
- Shared learning, which may also occur effectively at the boundaries/peripheries of the community.
- Common consensus regarding membership, and belonging.
- Awareness of others' competencies, strengths, weaknesses, where contributions can be maximized.
- Relationships that are grounded in information exchange and knowledge creation.
- Very quick setup of a problem to be discussed.
- Local lore, shared stories, inside jokes, knowing laughter.
- The ability to assess effectiveness and appropriateness of actions taken and products produced.
- Substantial overlap in participants' descriptions of who belongs.
- Common tools (physical and cognitive), methodologies, techniques, representations, and artefacts.
- Common stories, legends, lore, inside jokes, humour etc.
- A shared and evolving language, including jargon, acronyms, and unique terminology.
- Nature of the group also facilitates the creation of language shortcuts to increase communication efficiency.
- Specific tools, representations, and other artefacts.



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- The ability to assess the appropriateness of actions and products.
- Behavioural patterns and interactions recognized as signifying membership.
- Common perception, viewpoint, or vantage point of relevant external environment.
- Knowing what others know, what they can do, and how they can contribute to an enterprise.
- Mutually defining identities.
- A shared discourse reflecting certain perspective on the world.

Five key components are needed for a CoP as (Nemec & LaMaster, 2014): focus, leadership, input, commitment, and open forums.

Focus: The focus is important to the community members to choose the relevant practice, such as, community research.

Leadership: To choose a focused domain in the community the CoP members need a leader. For a successful CoP, a leader is main body to initiate and develop personal relationships and trust among committed community members. Also for creating a collaborative and comfortable environment where information and ideas can be shared openly, a leader can show them right path.

Input: When the members of a CoP share and grow a stock of knowledge for community growth, they must receive fresh input from multiple arenas.

Commitment: For the maintaining a CoP, a core group of members must be established to motivate and sustain CoP practice. They must be committed to the CoP to develop it.

Open forums: Open forums allows communities to gather knowledge from among the members of the CoP. Some can create in-person local community meetings, gatherings, and workshops for the connection between the community and the members in a CoP. Some can develop CoP website, Facebook or blogs, or sharing video testimonies in a shared online video library (Anderson-Carpenter et al., 2014).

8. LEARNING COMMUNITIES

A CoP is a learning community whereas some other online groups, for example, interest groups, are not. A learning community is “A group of people who share a common interest in a topic or area, a particular form of discourse about their phenomena, tools and sense-making approaches for building collaborative knowledge, and valued activities” (Fulton & Riel, 1999). There are three types of learning communities as follows (Riel & Polin, 2004):

Task-based learning communities: They are similar to teams or project groups, where people are organized around a task and who “Work intently together for a specified period of time to produce a product” (Riel & Polin, 2004).

Practice-based learning communities: In this community “There is a focus on continually improving one’s practices so as to support the effective functioning of the activity system” (Riel & Polin, 2004). Members of the community are predominantly concerned with refining procedures and developing tools for their practice, not generating knowledge for the future generation of practice.

Knowledge-based communities: They focus on the “Deliberate and formal production of external knowledge about the practice” (Riel & Polin, 2004).



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9. VIRTUAL CoP

An online CoP, also known as a virtual CoP that is developed on, and is maintained using the internet i.e., a virtual CoP (VCoP) is a network of individuals who share a domain of interest about which they communicate online (Curran et al., 2009; Chin & Chignell, 2007). Hence, when the members of a CoP do not have to be co-located is called VCoP when they collaborate online, such as within discussion boards and newsgroups (Dubé et al., 2005), or a mobile community of practice (MCoP) when members communicate with one another via mobile phones and participate in community work on the go (Kietzmann et al., 2013). Gannon-Leary and Fontainha (2007) describe VCoP as a “Network of individuals who share a domain of interest about which they communicate online.” The practitioners share resources such as, experiences, problems and solutions, tools, methodologies, etc., which improve the knowledge of each participant in the community and contribute to the development of knowledge within the domain. A VCoP may share news and advice of academic/professional interest but are unlikely to undertake joint projects together (Bos et al., 2008). Some other terms used of VCoP are online (Cothrel & Williams, 1999), computer-mediated (Etzioni & Etzioni, 1999), electronic (Wasko & Faraj, 2000) and distributed CoP (Hildreth et al., 1998). A VCoP is a particular area of social media named Usenet, which is a discussion network and also the largest discussion area of the internet (Murillo, 2008). It is a vehicle for more effective virtual team working (Târnavăanu, 2012).

Virtual communities do not need formal boundaries for they can be fluid. They exist according to identification to an idea or task, rather than place. The Internet, or the World Wide Web (www), becomes the place for the community; thus networked communication has increased the parameters of what is known as a community (Squire & Johnson, 2000).

The life cycle of traditional or virtual community development in five stages is as (Palloff & Pratt, 1999): forming, standardizing, storming, performing, and adjourning. The phases of building a VCoP are as follows (Palloff & Pratt, 1999): the initial, the conflict, the intimacy and work, and the termination.

A virtual learning community may involve the conduct of original research but it is more likely that its main purpose is to increase the knowledge of participants using formal education or professional development. Knowledge development in a VCoP is continuous, cyclical and fluid with no clearly defined beginning or end (Gannon-Leary & Fontainha, 2007). A VCoP encompasses that people learn better in social settings and through social interaction which can establish a networked environment (Wenger et al., 2002).

The concept of a CoP has been given currency in higher education discourse by practitioners in emergent areas of networked learning (White & Pagano, 2007). The interactions within the communities focus around knowledge sharing within the membership, who may range from experts through to novices which reiterates the model of apprenticeship or learning in social and situated contexts in the workplace (Lave & Wenger, 1991; Fox, 2000).

A VCoP needs to make good use of Internet standard technologies such as listserv, bulletin boards, and accessible web technology. It needs to ensure that participants have the technological provision and necessary IT skills to support mutual engagement (Moule, 2006).

Quentin Jones characterized ‘virtual settlement’ and online communities as a cyber-place with associated group computer-mediated communication (CMC) featuring as follows (Jones, 1997):

- ☐ minimum level of interactivity,



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- ☐ variety of communicators,
- ☐ minimum level of sustained membership, and
- ☐ virtual common-public-space where a significant portion of interactive group-CMCs occurs.

Online communities rely on CMC. But face-to-face communication is a richer medium than CMC (Daft & Lengel, 1986). The main activities for the creation of a successful virtual community are as follows (Lima et al., 2010):

Membership development: It is the need to promote the growth of the community and replace the members that leave.

Content management: It is related to information content, alliances and infrastructure. It must create the members' profile, divide them in sub-communities according to specific topics, capture, disseminate knowledge and create processes that facilitate members' involvement.

Relationships management: It must be developed based on explicit general rules that help members to solve conflicts that often arise, on their own or with the help of moderators.

The phases of building a virtual community are as follows (Palloff & Pratt, 1999):

- the initial phase,
- the conflict phase,
- the intimacy and work phase, and
- the termination phase.

The discipline is a barrier to the VCoP. In some areas of the sciences, knowledge sharing may be difficult for the lack of experts (Bos et al., 2008). A VCoP may be weak where there is a strong community of people (Smith et al., 2005). Shifting membership of a VCoP is another barrier and shifting members need to work hard to maintain energy and a high degree of participation (Ellis et al., 2004; Gibson & Manuel, 2003).

10. DISTINGUISH BETWEEN ONLINE CoP AND CO-LOCATED CoP

Online CoP and co-located CoP share similar characteristics as they are both learning communities with members who are mutually engaged in shared practice aiming to develop a repertoire of communal resources (Wenger et al., 2002). But they are also differing in several aspects as follows (Lai et al., 2006):

Design: Online CoP is usually designed top-down (Saint-Onge & Wallace, 2003) as the technological infrastructures are needed to enable communications in CoP (Barab et al., 2004). Members of the CoP first belong to a local community before belonging to the global one. The co-located CoP is usually emerging from existing groups (Wenger et al., 2002).

Membership: Online CoP is usually open. Members do not necessarily know each other before becoming the CoP members. A critical mass is needed for the CoP to function properly and a structure is needed to support both local and global groupings (Lai et al., 2006). Co-located CoP is usually closed. Members know each other, at least for the core group members. It is mostly organizationally based and consists of mainly by local sub-groups (Lai et al., 2006).

Leadership: The leaders of online CoP are recruited. The leaders in co-located CoP can emerge from the community.



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Form of communication: In online CoP communication is primarily text-based, computer-mediated, ideally supplemented by face-to-face meetings. In co-located CoP communication is primarily face-to-face, supplemented by computer-mediated communication.

Time to develop the community: It takes longer time to develop an online CoP. A co-located CoP can be developed in a shorter time period.

Technological support: It is essential for online CoP but not for co-located CoP.

11. MODERN TECHNOLOGY FOR Cops AMONG GRADUATE YOUNGSTERS

At present knowledge can be shared by the medium of Web 1.0 and Web 2.0 tools which include blogs and wikis in which technologies are used (Buckley et al., 2017). Web 1.0 consisted of static web pages that were filled with information but users could not interact with the site except download a document or an application. On the other hand, Web 2.0 enabled people to connect with others through the Web by using social networking sites like LinkedIn or Facebook (Gelin & Milusheva, 2011). CoP can perform by Wikipedia or YouTube by Web 2.0. The graduate youngsters acquire knowledge using both the classical academic learning and community learning. The classical academic learning is the process of acquire knowledge through class room, and consulting through the referenced and other related books and printed devices. In this method a learner can acquire knowledge without discussing with other learners. On the other hand the community learning is the methods of learning with discussing with a group of learners. They can take help of Web 2.0 tools to know more. In this method the learners can share knowledge to develop new knowledge.

12. BENEFITS OF A CoP

A CoP establishes trust between the practitioner and the community, promotes recognition, builds community practitioner confidence, increases work satisfaction, and acts as an effective way to meet individual goals for the improvement of community (Wilding et al., 2012; Daniel et al., 2013; Friberger & Falkman, 2013). Cohesion between members affects the willingness to spent time, effort, and energy on interacting with other community members (Holland et al., 2000). Communication climate is considered as an important feature of interaction in a CoP and interaction frequency characterizes interaction processes (Bogenrieder & Nooteboom, 2004).

Members of a CoP use community knowledge to solve their own problems and share the solution with the community. As a result, the more its knowledge grows, and the more it becomes attractive to new members (Lima et al., 2010).

Organizations have begun to implement a large number of CoPs into achieving benefits as follows (Dalkir, 2005):

- Building loyalty and commitment among stakeholders.
- Improving efficiency of processes.
- Promoting innovation through better sharing of best practices.
- Decreasing employee turnover and attrition.
- Generating greater revenue and revenue growth.



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A CoP offers a valuable tool for organizations in hope to take advantage of its knowledge and information assets (Hinton, 2003).

13. IMPORTANCE OF A CoP

In recent years CoP becomes an important issue in education, economics, business, computer science, healthcare, and KM within organizations. The activities of a CoP are found in business, organizational design, government, education, professional associations, development projects, and civic life (Lesser et al., 2000; Koliba & Gajda, 2009). The role of CoP in the process of learning and knowledge generation has become an essential element in the context of intra- and inter- organizational knowledge transfer to policy makers and social scientists concerned with economic development (Cohendet et al., 2013). By sharing knowledge, a CoP can be useful in developing new ideas and new strategies.

CoP members can practice through the written archives, proceedings, experiences, documents, policies, rituals, specific idioms, blogs, wikis, forums and chats (Târnavăanu, 2012). An important aspect and function of a CoP is to increase organizational performance. Lesser and Storck (2001) identify four areas of organizational performance that can be affected by a CoP as follows:

- decreasing the learning curve of new employees,
- responding more rapidly to customer needs and inquiries,
- reducing rework and preventing reinvention of the wheel, and
- generating new ideas for products and services.

14. THE CHALLENGES AND BARRIERS OF A CoP

Wenger and Snyder (2000) noted that “Communities of practice give you not only the golden eggs but also the goose that lays them the challenge for organizations is to appreciate the goose and to understand how to keep it alive and productive.”

Tremblay (2004) shows three major challenges for the implementation of a CoP as follows:

- to motivate individuals to participate in the project,
- to find the means to sustain the interest of participants but also of the organization which supports the learning project through the CoP, and
- to establish a form of recognition of the participation of individuals.

One of the barriers in implementing a CoP is related to sharing knowledge between institutions and regards legal issues as data protection, intellectual property, copyright and confidentiality (Abuelmaati & Rezgui, 2008). A CoP can fail due to the lack of a common, shared identity, the lack of consensual knowledge, the uncertainty factor, geographical distance, cultural factors and loose opportunity for collaboration and sharing informal knowledge (Davidson & Tay, 2003).

Mutual trust is another barrier in a CoP. Along with trust, communication allows the CoP to grow, change and achieve its objectives. Trust building is vital for sharing and a trust primarily develops through face-to-face interactions and a shared understanding (Ellis et al., 2004; Gibson & Manuel, 2003).



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15. CONCLUSION

In this study we have tried to present aspects of a CoP. Actually the main aim of a CoP is to work together for the benefit of the members of that community and the society, and we have tried to represent it here. We describe in brief, a virtual CoP, a network of individuals who share a domain of interest about which they communicate online. At present every nation is using virtual CoP for their welfare. Its activities save both time and cost to perform the work efficiently. In this article we give the distinction between a CoP and a virtual CoP. Finally we have highlighted the importance, challenges and barriers of a CoP.).

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Characteristic of in-work poverty – a comparison between Romania and European Union

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Abstract. The aim of this article is to analyse the characteristics of the working poor in Romania compared to other European Member States. In-work poverty is an important aspect in the discussions regarding the effectiveness of employment in preventing the risk of poverty. The in-work poverty is the result of several factors among which we mention those related to the individual characteristics, household composition, and labour market policies. In Romania, the level of in-work poverty continues to remain high for the overall employed population aged 18 years and over and this evolution is due to the part-time working program, the temporary contracts, and the low level of education. The last part of the article presents the measures identified in the scientific literature to reduce the in-work poverty.

Keywords: labour market, in-work poverty

JEL Codes: J010, J30

1. Introduction

The deterioration of the standard of living has generated an increased interest in identifying the most appropriate methods to measure the level of well-being. These concerns have been reflected in the scientific articles, in the national and European statistics and reports, as well as in the legal regulations. Starting with 2005, Romania developed primary, secondary and tertiary indicators of social inclusion, calculated annually by the National Institute of Statistics (INS). Within the European statistic framework, the indicator measuring the work-related poverty was introduced in 2003, as a result of the fact that being employed is not always sufficient to reduce the risk of poverty. [1]

The in-work poverty indicator measures the poverty rate among those who are employed (employees and self-employed) for at least half of the total working time during a reference period. The poverty rate is expressed in terms of the poverty line, the primary indicator of social inclusion that is calculated in our country by the INS. The poverty line is the level of the standard of living that every person or household is supposed to achieve in order not to be considered poor. Starting from this, poverty thresholds could be:

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- Absolute: it assumes a fixed level of purchasing power, which is enough to buy a certain fixed package, well determined of basic goods and services [2]. The absolute poverty line represents the minimum income/consumption level below which a particular individual or household is considered poor [3].
- Relative: It is the main European indicator of social inclusion (since 2001) and it is the indicator on the basis of which comparisons between countries are made (since 1980). [4] According to this indicator, a person or household with a revenue level below 40-70% of the median of available income, is considered to be poor. The thresholds of relative poverty reflect the level of economic, social and cultural development of a society. [5]

In the scientific literature it is appreciated that the difference between the absolute and the relative indicators is like that: in the case of the first ones, the income thresholds remain constant, while in the case of the second ones, the relative thresholds increase as the living standards improve. [5]

2. In-work poverty

This indicator is the share of people who work and earn 60% of the average earnings per adult equivalent (after social transfers). [6] It is appreciated that the analysis of this indicator must take into account the status on the labour market, the gender and the level of education [7]. The phenomenon of poverty affects not only those who do not have a job. The early and fast integration into the labour market, along with income from work, characterize the level of working poverty.

In-work poverty is the result of several factors ([8], [9]):

- Individual factors: age, sex, status on the labour market, educational level;
- Specifics to the household in which the employed person lives: the composition of the household, the intensity of work;
- Institutional factors: type of employment contract, length of working program, social protection system, and fiscal policy;
- The structure of the labour market.

2.1. In-work poverty rate by age, sex and labour market status

Currently, Romania continues to show a high level of working poverty for the entire working population aged 18 years and over. 17.4% in 2007 and 18.8% in 2015 of the total employed population was represented by people who were still at risk of poverty (an increase in 2015 compared to 2007, with 1.4 pp). Romania remains the European country with the highest share of the employed population with earnings below the poverty line, given that the European average of persons in a similar situation was 9.5% (2015). Other European countries accounting for more than 10% of the total employed population being at risk of poverty were: Greece (14.2% in 2007 and 13.4% in 2015), Spain (10.2% in 2007, respectively 13.1% in 2015), Italy (9.3% in 2007 and 11.5% in 2015), Luxembourg (9.3% in 2007 and 11.6% in 2015 respectively), Poland (11.7% in 2007, 11.2% in 2015), Portugal (9.7% in 2007 and 10.9% in 2015), Estonia (7.8% in 2007 and 10% in 2015).

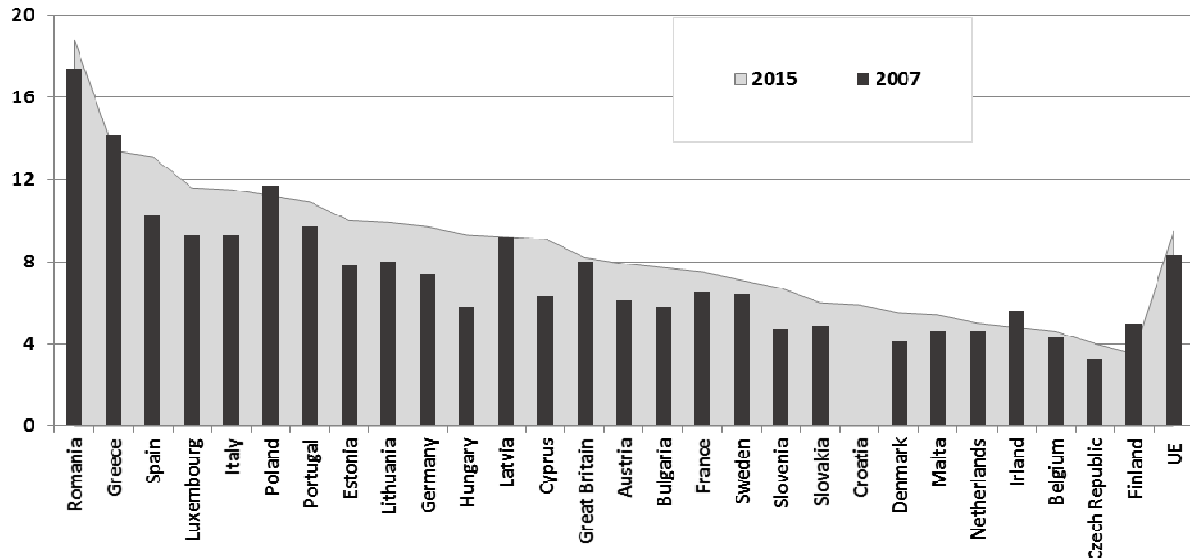


Fig.1: In-work poverty, total employed population (18 years and over)
 Source: Eurostat, online data code [ilc_iw01].

By age group, Romania has the highest poverty level for the young (18-24 years) employed population, over one third of the young people in 2015 (33.5%) being at risk of poverty, while the European average exceeded 10% (12.4%). In the case of Romania, the values continued to be high throughout the period 2007-2015, with the lowest point for this age category being recorded in 2007 (20.1%).

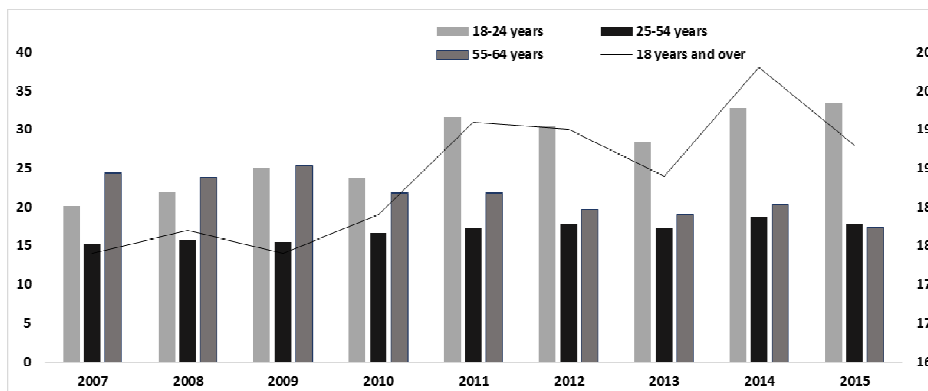


Fig. 2: In-work poverty, total employed population, in Romania
 Source: Eurostat, online data code [ilc_iw01].

The in-work risk of poverty among young people increased by more than 10% between 2007 and 2015. For the same period, no other European country has registered similar values to our country; the countries with the closest in-work poverty rate, of around 20%, being Denmark (19.3% in 2015, decreasing with 1.1 percentage points compared to 2007) and Greece (19.2% in 2015, making a 5.4 percentage points change



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compared to 2007). The Romanian older workers (55-64 years old) in-work risk of poverty represented the double of the European average in 2015 (17.4%), similar to the rate of older workers in a similar situation from Greece (16.8%). In 2015 compared to 2007, most European countries have recorded increases in the share of older workers at risk of poverty, with the exception of Ireland (1.5 percentage points decrease), Latvia (2.5 percentage points decrease), Lithuania (a decrease by 0.7 pp), Malta (down 0.8 pp), Austria (down 1.8 pp), Portugal (2.3 pp decrease), Finland (0.9 pp decrease), UK (a decrease of 0.2 pp). For the same period, Romania recorded the most significant decline in the share of older workers at risk of poverty, of 7 pp.

In-work poverty by gender is more pronounced among the 18 years old male population, for the majority of the European countries. (Fig. 3 and Fig. 4) During the period 2007-2015, the evolution of the total employed male population at risk of poverty in Romania registered an upward trend (an increase of 2 percentage points) with a peak reached in 2014 (22.6%). In 2015 compared with 2007, most of the European countries recorded increases in the male population at risk of in-work poverty, with the exception of Greece (a decrease of 0.3 percentage points), Ireland (down 0.2 pp), Poland (a decrease of 0.2 pp) and Finland (the most significant decrease - 0.4 pp).

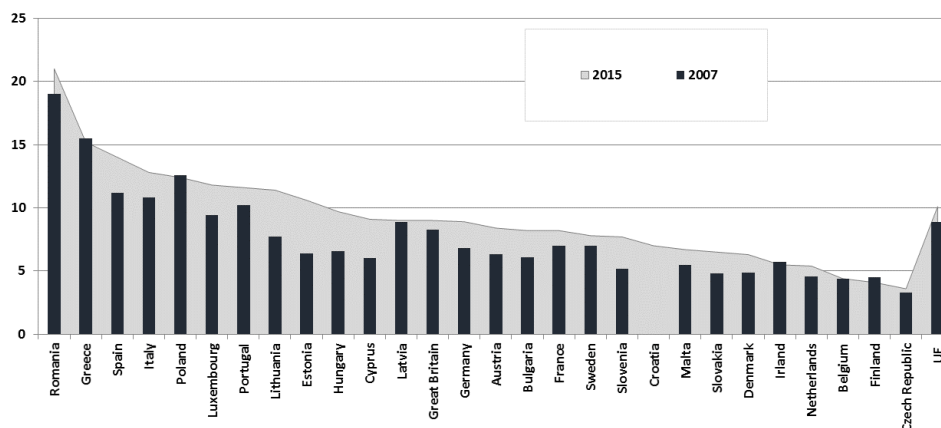


Fig.3: In-work poverty, total employed population (18 years and over), males
Source: Eurostat, online data code [ilc_iw01].

The total female employment (18 years and over) at risk of poverty in Romania increased between 2007 and 2015, but to a lesser extent compared to the male employed population. For Romanian employed women at risk of poverty the increase was of 0.4 percentage points in 2015 compared to 2007. Greece (a decrease by 1.3 pp), Ireland (a decrease of 1.3 pp), Latvia (0.1 percentage points decrease), Poland (a drop of 0.7 percentage points), and Great Britain (0.3 percentage points decrease) are those European countries that recorded reductions in the female employed population being at risk of poverty. The most significant decline was recorded in Finland, of approximately 3 pp.

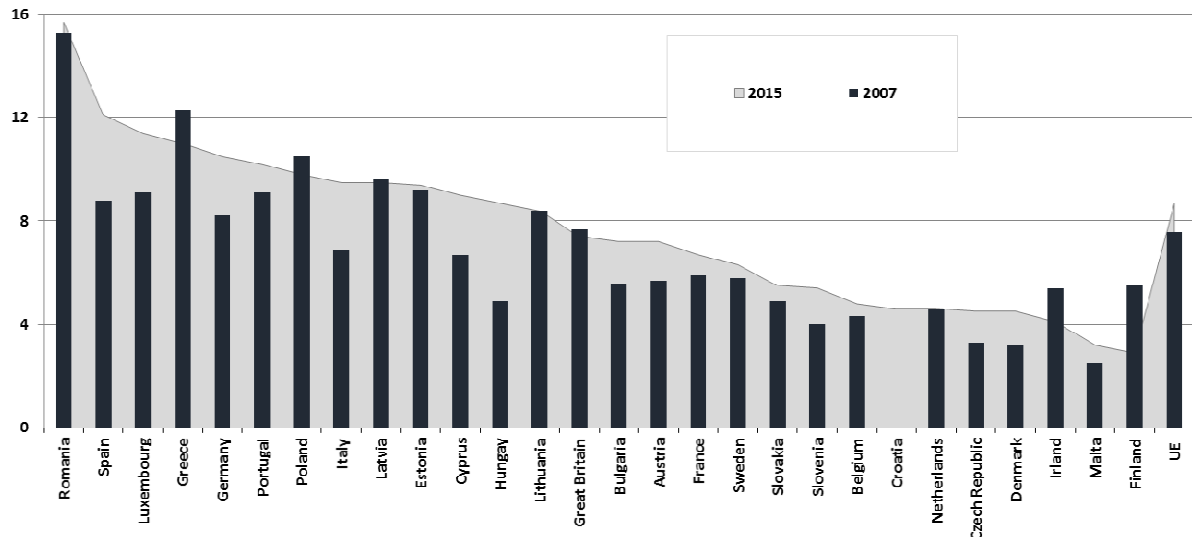


Fig.4: In-work poverty, total employed population (18 years and over), females
 Source: Eurostat, online data code [ilc_iw01].

The poverty rate for the employed persons increased nationwide between 2009-2012, amid measures to combat the effects of the crisis and reduce wages in the public system. A slight growth is registered in 2014, as a result of the legal regulations that required the gradual recovery of the reduction in wages applied in 2010(due to the economic crisis).

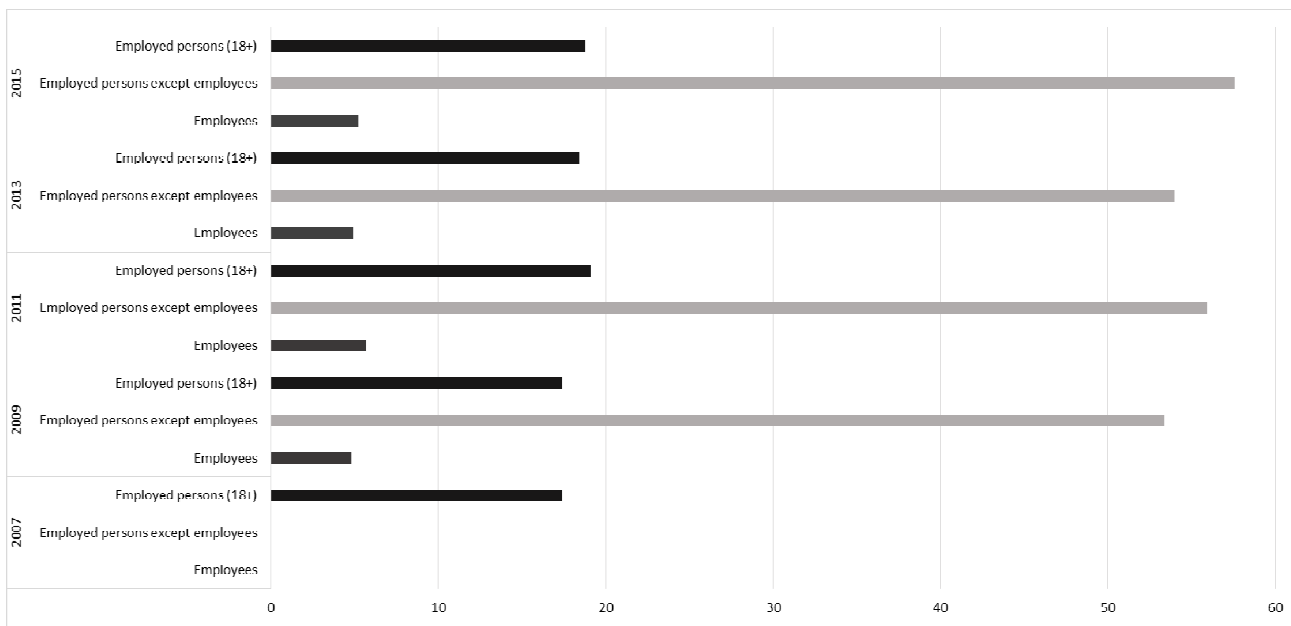


Fig.5: In-work poverty, total employed population (18 years and over) and labour market status
 Source: Eurostat, online data code [ilc_iw02].



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The in-work poverty rate remains approximately 2 times higher at national level compared to the European average for the persons employed (18 years and over) and for those employed but not employees. On the other hand, in terms of employees, the in-work poverty rate at national level is below the European average for the whole period 2009-2015. Most European countries have experienced increases in the in-work poverty rate for employees between 2009-2015, with the exception of Bulgaria, Denmark, Latvia, Austria, Slovakia and Finland. Romania is part of the group of European countries that registered increases in the poverty rate among employees - a growth of 0.4 percentage points.

2.2. In-work poverty by type of household

The single person households and households with no children were more exposed at the risk of in-work poverty, during 2007 and 2015. While 2011 and 2014 have marked depletion in the risk of in-work poverty for single persons, the households with children and those without children recorded an elevation of the risk of poverty.

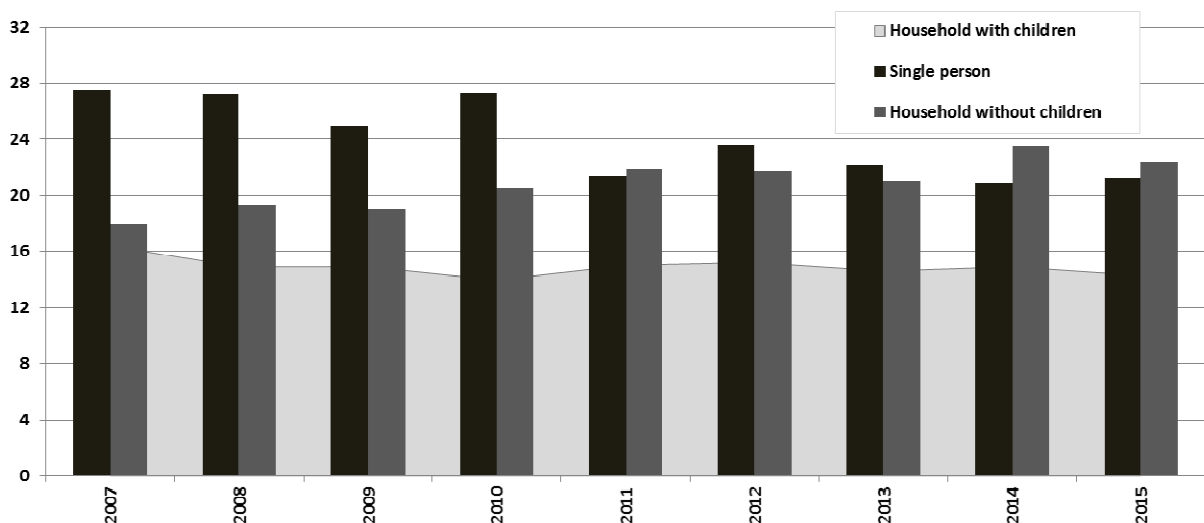


Fig.6: In-work poverty, distribution based on household type

Source: Eurostat, online data code [ilc_iw02].

Irrespective of the size of the household, Romania accounts rates of in-work poverty that far exceed the European averages. Along with Poland, Greece, Latvia, Lithuania, the Netherlands, Portugal and Finland, Romania is part of the group of countries that registered drops in poverty rates for single-person households - the country with the most significant decrease of 6.2 pp. Romania recorded decreases in the poverty rate for households with no dependents but lower than those registered for single-person households (2.1 pp decrease). For the same period, Romania recorded an increase in the in-work poverty rate of households with children of 4.3 pp, the highest growth, followed by Estonia and Lithuania with increases of approximately 3 percentage points.



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2.3. In-work poverty by type of working contract and educational attainment

The analysis in this section concerns employees and takes into account the type of work (permanent / temporary) and the type of contract (indefinite / determined). Permanent employees are those who carry out their work under an employment contract for an indefinite period of time and temporary workers are those working on a fixed-term contract (apprenticeship, probation period, etc.) [10] The evolution of the in-work poverty rate for Romanian employees with a permanent working regime followed an upward trend during 2007-2015, with a minimum point reached in 2013 (4.9%). The values recorded in the case of the Romanian employees followed a similar evolution to other EU member states. The rates accounted for Romania have remained below the European average, with the exception of the period 2010-2012, when they were higher than the values recorded at EU level. Temporary contracts may accentuate the risk of in-work poverty. Compared to 2007, the year 2015 is characterized by an increase in the poverty rate for employees with a temporary job by 0.4 percentage points. The poverty among women with temporary jobs was higher compared to that recorded for males with similar jobs, during 2007-2015. The highest proportions of employees who worked during the period 2007-2015 based on a full-time employment contract were specific to Romania, Greece and Poland. Romania ranks first with poverty rates for full-time employees ranging from 14.1% in 2007 to 15% in 2014 and 14.7% in 2015. Most of the European countries experienced increases of the poverty rates among employees with such contracts in 2015 compared to 2007, with the exception of the United Kingdom (0.1 percentage points decrease), Finland (0.5 percentage points decrease), Greece (decrease by 1.3 pp) and Ireland (down 0.9 pp).

For employees who worked under a part-time labour contract during 2007-2015, in-work poverty rates were higher than those who worked on a full-time employment contract, regardless of country. However, Romania had the highest rate of in-work poverty for this category of employees. Over the period 2007-2015, more than a half of Romanians with part-time work contracts were at risk of poverty, no other European country having similar values. Part-time work and temporary workers have a higher risk of poverty than full-time or permanent employment contracts, regardless of country and year.

A higher level of education provides greater chances to find a well-paid job. The in-work poverty risk for people with a high level of education (ISCED 5-6) was the lowest between 2007 and 2015. The economic crisis has led to an increase in the risk of working poor - the higher the level of education has been, the lower the risk was. The incidence of poverty among persons with low levels of education (ISCED 0-2) is more pronounced in some of the Central and Eastern European countries such as Romania, Lithuania, Bulgaria, Poland, Hungary, Latvia, which recorded values of the in-work poverty rate for individuals with such an educational level that far exceed the European average for 2015 (19%). Germany, Luxembourg, and Spain are also countries that registered higher values than the European average for people with low levels of education. Compared to 2007, the most pronounced increases in the poverty rate among low-education graduates were in the case of Lithuania (increase by 17.5 percentage points), Hungary (up to 13.6 pp) and Bulgaria (increase by 10.6 pp). Romania has a low poverty rate for people with a high level of education (ISCED 5-6), far below the European average of 4.5% for 2015. However, some empiric research have shown that even in case of higher education graduates, knowledge and skills acquired are related to the field of study[11], in direct relation with the level of wage. The group of countries that exceed the European average for this level of education includes Spain, Estonia, Austria, Germany, Great Britain, Greece and Sweden.



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2.4. Measures to reduce the in-work poverty

A series of European studies ([8],[9]) emphasises that people at risk of poverty are not a homogeneous group that can easily be identified so that appropriate public policy measures could be implemented. Concerns about working poor are relatively recent, with in-work poverty being, up to a certain point in time [12], conceptualized as a labour market integration problem. In the case of Romania, references to working poor could be found in the National Employment Strategy 2014-2020, which stresses the need to develop adequate and employment-oriented social security systems, but also the necessity to implement measures that favour the balance between family and professional life, by diminishing part-time involuntary work. Indirectly, labour poverty can also be influenced by active employment measures, vocational training or the necessity to ensure greater job stability.

The scientific literature and studies conducted at EU level point a range of policy tools to reduce in-work poverty ([8],[9],and [13]):

- Policies to increase participation into the labour market (active employment measures, support to greater participation into the labour market for vulnerable groups);
- Policies to support workers (measures related to wages and income levels, job quality and stability, career counselling);
- Policies to supplement the labour income (benefits granted through the tax and social security system);
- Access to different services.

All these instruments include also fiscal measures, labour market measures (minimum wage, unemployment benefits) and family policy measures.

Policies aiming the minimum wage are an important way to reduce in-work poverty. The minimum wage is an instrument used to ensure the individual's protection against poverty and its level can favour the return of individuals to employment, as well as the employers' interest in improving labour productivity with positive effects on the long-term gains of employees. At European level, most countries have minimum wages regulations. The European statistics [14] concerning the level of minimum wage allow the group of the member states into three categories: countries with a minimum wage less than 500 Euros per month (Bulgaria, Romania, Lithuania, Hungary, Czech Republic, Latvia, Slovakia Croatia, Estonia, and Poland), countries with a minimum wage ranging from 500-1000 Euros (Portugal, Greece, Malta, Spain and Slovenia) and the rest of the European states (France, Germany, Belgium, Holland, UK, Ireland and Luxembourg) with minimum wage of 1000 Euros or more.

Benefits related to employment are intended for low-wage workers or families with low work income and imply a financial incentive to return in employment. The level of these benefits varies from one country to another, depending on the characteristics of the social protection system. Generally, these benefits are earnings-related, paid for an indefinite period. In some countries, these benefits are conditional upon the provision of a minimum number of hours of work. [15]This category includes benefits for single parents or compensatory payments for voluntary work. [8]

Benefits granted through the tax and social security system are targeted to those people or families who face the phenomenon of in-work poverty or who are at a higher risk of being affected by poverty even though the adult members of the household are employed. These types of measures should be complementary to developing and ensuring access to childcare and education services.



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Active labour market measures are most commonly implemented in the Member States and their main purpose is to sustain the employability for some disadvantaged groups of persons [16] These measures include (but are not limited to) training, supplementing employee income (employment incentives, activation subsidies), and stimulating labour mobility (installation incentives). European reports ([8], [9]) point out that these measures cannot be effective unless they take into account the fact that low-income persons and those affected by in-work poverty do not always match. The measures must take into account the size of the household, the number of persons employed within the household, the number of dependent children.

Increasing the quality and stability of the workplace is another tool that could be used to reduce the in-work poverty. The analysis of data (2007-2015) concerning the in-work poverty at European level shows that a growth of employment is not enough to avoid poverty. An explanation for this phenomenon is provided by [13] and [17], according to which employment growth during this period was the result of increasing part-time or temporary employment, so that the poverty rate for those who worked under temporary contracts was higher compared to those who were employed under a permanent contract. In many cases, part-time employment is possible for jobs requiring low levels of qualification. Increasing the quality of work involves an appropriate legal framework and collective agreements.

3. Conclusions

In-work poverty is a significant indicator of the effectiveness of employment in preventing the risk of poverty, as it measures the poverty rate among employed persons. The working poor is the result of several factors among which have to be mention those related to the individual characteristics (age, sex, labour market status), household composition, type of the contract, educational level.

Similarly to other Central and Eastern European countries, Romania has a high level of in-work poverty for the employed population (18 years and over), especially for older workers, female workers (in a larger extent if they perform a part-time work or under a temporary contract) or those with low educational level. In terms of household composition, irrespective of the size, Romania registers rates of in-work poverty that far exceed the European averages. Fighting the working poor is a national concern for the period 2014-2020 and from this perspective, complex policies measures should be designed and implement to target the most affected categories of population.

4. Acknowledgements

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Fields of Smart Specializations and the Romanian Research

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Abstract. This article aims at identifying the presence of the smart specialization fields in the Romanian research and the strategies related to this field. By reviewing policies regarding EU and Romanian research, we outlined a succinct picture of national goals and developing smart specialization fields in Romanian research.

Keywords: RD&I strategies, fields of smart specialisation, the national R&D system.

JEL Codes: I23, O31, O38.

1. EU's strategies for research, development and innovation

The EU Cohesion Policy 2014-2020 foresees the need for regions and member states to channel EU investment into four key fields for economic growth and employment creation: Research, Development and Innovation (RD&I); Information and Communication Technologies (ICT); Enhancing the competitiveness of small and medium-sized enterprises (SMEs); supporting the shift towards a low-carbon economy.

Launched in January 2014, with a funding of 80 billion Euros over the 2014 to 2020 period, Horizon 2020 Program is EU's most comprehensive research and innovation program. Being a means of stimulating economic growth and creating employment, it is placed at the heart of the Europe 2020 strategy for smart, sustainable and inclusive economic growth. Strengthening EU's capacity for the scientific field and industrial innovation (investing in key technologies, facilitating access to capital and supporting SMEs) is one of the objectives of this integrated program. The importance of innovation is also highlighted through the increase of investments in innovation in 2017 by 51.6 million Euros [1]. The Horizon 2020 work program for 2016-2017 was updated on July 25th, 2016. Thus, its budget was increased for investment in SMEs innovation, with four themes: Healthcare and biotechnology; Sustainable agriculture, forestry; Blue growth (sustainable development of the entire marine and maritime sectors); Climate, environment, raw materials, and efficient use of resources.

2. Romanian Strategies for RD&I

National Research, Development and Innovation Strategy (SNCDI) 2014-2020, in force from 28.10.2014, through the publication of GD no. 929/2014 in the Official Gazette, Part I no. 785 / 28.10.2014,



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identified two types of priorities: *smart specialization* and *public relevance*. Smart specialization priorities imply the consolidation of high competence areas with real/potential comparative advantages that can make a significant contribution to GDP. By concentrating resources and mobilizing a critical mass of researchers, these fields can ensure competitiveness on regional and/or global added value chains [1], through their regional dimension as well, while priorities with public relevance aim at allocating resources in fields where research and technological development respond to concrete and pressing social needs. These priorities imply the development of the public sector's ability to oversee emerging technologies and to demand innovative solutions from public and private RD&I operators. Within the National Research, Development and Innovation Strategy (SNCDI) 2014-2020, fundamental research remains a priority, including humanities and socio-economic disciplines as a source for border and interdisciplinary research [1]. The orientation of RD&I policies towards research activities of economic relevance is supported by smart specialization, which targets all scientific disciplines, involving the stimulation of regional or global oriented economic behaviour, the understanding of the social impact of science, technology and economic activities in the relevant sectors and interdisciplinary research and development. Smart specialization is a dynamic process that involves collecting and analyzing data at regional and national level, based on a comprehensive monitoring mechanism. Also, according to paragraph 4.2 "Supporting smart specialization" of the SNCDI 2014-2020, "smart specialization is supported by a set of tools covering the whole spectrum of creative activities, from idea to market, and highlights collaborations, as well as partnerships between various operators". [1]

Following a consultation process, on the basis of their scientific and commercial potential, the fields of smart specialization for the 2014-2020 Strategic Cycle were identified: Bioeconomy¹; Information and communication technology, space and security²; Energy, environment and climate change³; Eco-nanotechnologies and advanced materials⁴.

The National RD&I Plan 2015-2020 and the Competitiveness Operational Programme (POC) – the goal "Increasing the capacity of the RD&I system for 2014-2020" represent two of the main instruments by which SNCDI 2020 is implemented. After the 2007-2013 programming period aimed at increasing RD&I capacity, stimulating cooperation between RD&I institutions and enterprises and increasing RD&I access to companies, the POC 2014-2020 aims at developing scientific expertise, entrepreneurship initiatives and financial opportunities, strongly tied to the fields of smart specialization relevant for Romania and mentioned above, to which national health sector has been added. [2]

¹ This domain benefits from the huge potential of Romanian agriculture in the context of a growing local food industry and growing standards of successful applied research in this field and in the pharmaceutical industry, as well as in the context of global trends such as the high demand for food.

² This domain is one of the most dynamic in the country. Software development, technologies for the internet of the future and high-performance computing, all play a central role in solving major societal problems.

³ Energy research supports the reduction of Romania's energy dependence, by the high exploitation of fossil fuels, the diversification of national (nuclear, renewable, clean), multi-purpose (smart grids) and increased efficiency for the consumer.

⁴ The domain belongs to Generic Essential Technologies (TGE), a priority at European level, which uses intensive RD&I. The field is driven by the international competitiveness of the Romanian automotive industry, the high capital inflow and the dynamics of exports in this sector. Nanotechnologies have great innovative potential, support SMEs and ensure Romania's technological competitiveness.



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3. The fields of smart specialization and Romanian research

In Romania, the research and development activity is a national priority. It has a decisive role in the sustainable economic development strategy (Article 3, paragraph 1, of GEO No. 57/2002 on scientific research and technological development, with the subsequent modifications and completions⁵), and the right to carry out research, development and innovation activities is recognized to any natural or legal person (Article 5, paragraph 1, GEO No. 57/2002). According to the same normative act, Article 1 states that “Scientific research, experimental development and innovation are the main activities creating knowledge and generating economic and social progress, encouraged and supported by the state according to the Romanian Constitution, republished, and the present ordinance.”

The national research and development system consists of all units and public law institutions⁶ and private law institutions⁷, which target research and development. Other types of organizations (such as catalysts – technology transfer, business centres, technology information centres, technology parks, hospitals, NGOs) play an important role, as well.

The public authority institutional collaboration – the private sector–public research sector – is realized through the National Council for Science, Technology, and Innovation Policy (CNPSTI), under the direct supervision of the Prime Minister, and other consultative bodies with a tripartite composition (representatives of the public authorities, the private environment and the research sector).

The process of smart specialization is dynamic and involves the collection and ongoing analysis of data, at regional and national levels, as well as a monitoring mechanism within the strategic cycle. Smart specialization is supported by tools that cover the whole spectrum of creative activities⁸, from idea to market, and that highlights collaborations and partnerships between different operators. [1] In Figure 1 are presented the main fields of smart specialization existing in the Romanian research system, with their development priorities.

Smart specialization fields are open, in principle, to any scientific discipline. In a narrow sense, for example, the field of research of the National Research and Development Institutes (INCD) under the

⁵ L no. 324/2003; GO nr. 86/2003; GO no. 38/2004; L no. 230/2004; L no. 381/2005; GO no. 58/2006; GEO no. 88/2006; GEO no. 4/2009; L no. 305/2009; GEO no. 114/2009; GEO no. 74/2010; GO no. 6/2011; GEO no. 92/2012; GO no. 41/2015.

⁶ The national research and development system comprises the following categories of units and institutions of public law according to the provisions of Art. 7 from GEO no. 57/2002: national research and development institutes; accredited state higher education institutions or their research and development structures, without no legal entity, established according to the University Charter; institutes, centres or research-development centres subordinated to the Romanian Academy or their branches; other institutes, centres or research-development centres organized as public or public law institutions; international research and development centres established on the basis of international agreements; institutes or research-development centres organized within national societies, national companies and autonomous administrative divisions; other public or public law institutions, which have as their subject-matter the research and development or their legally constituted structures. (Article 7 of GEO No. 57/2002)

⁷ The following categories of private law units and institutions are also included in the national research and development system: accredited private higher education institutions or their R&D structures, with no legal entity, established under the University Charter; institutes or research-development centres without patrimonial purpose, recognized for public use; other institutes, centres or research and development centres organized as private legal entities without patrimonial purpose; other non-governmental organizations, without patrimonial purpose, which have as object of activity the research-development or their legally constituted structures; companies whose main activity is research and development; companies that have their business and research-development or their legally constituted structures. (Article 8 of GEO No. 57/2002)

⁸ And areas such as the preservation of cultural heritage and national identity, for example, become in the era of globalization and accelerated development of the knowledge society, increasingly convergent with the development of social cohesion, with the expansion of societal openness and intercultural communication.



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coordination of ANCS includes the following fields of intelligent specialization: Physics, Chemistry, Biology – Medicine, Microtechnology, Geology and Technical.

SMART SPECIALISATION FIELDS	PRIORITY FIELDS OF SMART SPECIALISATION
BIOECONOMY	Bioenergy - biogas, biomass, biofuel Bionanotechnologies Industrial biotechnologies Environmental biotechnologies Agri-food biotechnologies Medical and pharmaceutical biotechnologies
INFORMATION AND COMMUNICATION TECHNOLOGY	Technologies, tools and methods for software development
ENERGY, ENVIRONMENT AND CLIMATE CHANGE	Increasing energy efficiency to the consumer Optimal use of conventional and unconventional water resources Smart city
ECO-NANOTECHNOLOGIES AND ADVANCED MATERIALS	New generations of environmentally friendly and energy-efficient vehicles and technologies Innovative technologies, equipment and systems for the production of food and non-food bioresource
HEALTH	<ul style="list-style-type: none"> • Reproductive, maternal-fetal and perinatal medicine • Early diagnosis, personalized treatment, monitoring and prognosis in oncology • Healthy aging, lifestyle and public health • Personalized / group therapy and therapeutic monitoring • Quantitative systemic pharmacology and systemic toxicity: correlation, modelling and prediction • the elaboration of the national strategy
SPACE AND SECURITY	Integrated space technology applications Innovative methods and technologies for cross-border fight against terrorism, organized crime, human and goods trafficking

Fig. 1: Smart Specialisation and the Romanian Research

Source: Selection made by the author from the Detailed description of selected priorities (December 2013 version), The Elaboration of the National Strategy for Research, Technological Development and Innovation 2014-2020, MENCS. [3]

Despite the economic competitiveness gap that Romania faces, it has significant potential for regional clusters in Information and Communications Technology (ICT), nanosciences and nanotechnologies, automobiles, computer security and production technologies, which are based on the existence of a scientific and technological capacity. [4] Promoting economic growth by strengthening research, technological development and innovation is one of the development goals that the European Commission



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has proposed in the 2014-2020 Partnership Agreement for Romania for the planning and use of structural funds. It is therefore expected that RD&I oriented industries are particularly encouraged. Romania will be able to improve its long-term competitiveness by implementing a national strategy for industry and innovation that includes coherent and coordinated policies and priorities by concentrating resources on areas of comparative advantage. The country report of the European Commission on Romania for 2016 has highlighted a number of issues that require special attention for RD&I policy. Insufficient RD&I investments, unfavourable business environment and the limited number of highly qualified workers are among the factors contributing to the low share of exports of high technology products. The importance of high-tech products has declined since 2011, when it reached a record – 10% of exports. Romania is far behind other EU member states in terms of resources invested in RD&I. Research and innovation activities are mainly burdened by the insufficient level of funding, to which the reduced collaboration between the public sector and the private sector is added and the fragmented institutional framework. [5]

Romania's 2% GDP target for spending on RD&I (1% of GDP in public spending and 1% of GDP in private expenditure) is difficult to achieve given the lowest level in the EU is that of just 0,38% in 2014 (see Fig. 2), a year in which the RD&I public spending intensity continued the declining trend started in 2007. It is only the investments of enterprises in RD&I that increased to 0.16% of GDP in 2014 (27th place in the EU) [6], but this still remains insufficient.

	What Romania has assumed through the Europe strategy 2020	Level achieved by Romania in 2014	What EU has assumed through the Europe strategy 2020
RD&I expenditures (%GDP)	2%	0,38%	3%

Fig. 2 RD&I expenditures – assumed and achieved

Source: The Europe 2020 strategy and the EU Country Report – Romania 2016 [6]

The same document identified that the low business environment complexity and the generally low quality of the science base⁹ affects Romania's capacity to attract business investments into RD&I and to stimulate cooperation between the public sector and the private sector in the field of research and innovation. In the recent years, several new technology enterprises have been set up around some ICT entrepreneurs, but this phenomenon remains limited.

Romania's results are also well below the EU average in terms of the share of enterprises that have introduced technological innovations (34% of the EU average) and non-technological innovations (63% of the EU average) in the market or within their structures, with a strong decline in 2014 compared to the previous year for SMEs that are innovating using internal resources.

⁹ The low quality of the Romanian scientific base is evidenced by the quotation of Romanian scientific publications among the 10% of the world's most cited publications, where Romania ranks 25th among EU member states.



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In order to develop and maintain sound innovation governance, measures have been taken to facilitate SMEs' access to credit and to support start-ups based on knowledge. Thus, Law no. 20/2015 on the *stimulation of individual investors – business angels* was adopted [7]. Moreover, for entrepreneurs with innovative ideas, the creation of two investment funds is considered, one with capital at its establishment and seed capital and innovative start-ups, one with venture capital and growth capital. However, in order to make these measures achieve their goal, the European Commission's Country Report of Romania for 2015 considers that "a coordinated and integrated perspective on the RD&I system in the context of an approach that promotes intelligent specialization, supported by stability and the predictability of resources and a more effective partnership between the public and private sectors" is necessary.

The amendments made to the SNCDI 2020, at the beginning of 2017¹⁰, mainly aim at a better representation of the nuclear energy field, important sector for research activity in Romania, which contributes to meeting the objectives of the documents underlying the national development strategy. Among the eight new provisions it introduced, we underline:

- inclusion as a priority of the consolidation of the integration in the European research field, including through support of the participation of the research organizations and university centres in specialized structures, thematic networks or European technological platforms of interest for Romania;

- promotion and support of the research component in Romania's strategic partnerships;

- supporting participation in activities of international organizations or initiatives (CERN, ESA, IAEA, NEA, etc.), which require affiliation or scientific cooperation agreements based on integrated participation plans;

- development and support of scientific and technological cooperation under the strategic partnership with the US.

4. Final remarks

As a result of the proposed approach, namely identifying the areas of smart specialisation presence in the Romanian research and strategies in the field, we can highlight the following remarks, also extracted from all of the documents considered.

The development of intelligent strategy fields is a priority in the Romanian political strategies and is the subject of research in many institutions.

The field of eco-nanotechnologies and advanced materials is supported by a developed technical education system, with important contributions to the development of the mentioned industrial sectors. There are a large number of national institutes of Research and Development, institutes of the Romanian Academy, other types of organizations, which have at least one of the main fields of research in the field of advanced materials. These institutes have benefited in the recent years from major infrastructure investments through national and international funding programs, and have the material basis for conducting significant research with high economic potential [1].

¹⁰ Fundamental Note – GD no. 81 / 27.02.2017 for the modification and completion of the National Strategy for Research, Development and Innovation 2014-2020, approved by the Government Decision no. 929/2014



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Considering the recent amendments made to the SNCDI 2020 by the Romanian Government¹¹, the synergistic correlation of RD&I policies with the policies of other sectors, namely the energy sector, nuclear energy with priority, through effective recognition of the priority status of real promoter of economic and social development, ensuring a diversified energy mix is required. The Regional smart specialization strategies must be correlated with the Energy Strategy, the National Strategy for nuclear safety, as documents that have included research objectives.

Both smart specialization priorities and those with public relevance take into account, besides the development of innovative technologies and solutions, the stimulation of certain types of behaviour of relevant operators and the understanding of the social impact of science, technology and economic activities in the targeted sectors. Thus, these two priority classes imply interdisciplinary research and development activities, beyond traditional disciplinary demarcations [1].

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¹¹ Fundamental Note – GD no. 81 / 27.02.2017 for the modification and completion of the National Strategy for Research, Development and Innovation 2014-2020, approved by the Government Decision no. 929/2014



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Evaluation in PR through current methods and performance indicators. Future trends

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Abstract: In today's economic environment, deeply marked by a crisis whose impact continues to spread, we are talking more and more about efficiency: efficiency at society's level, as well as efficiency at the company and at the individual level. Efficiency in the field of public relations professionals is achieved by evaluating the work done. Although evaluation is not a new chapter of the communication plan, generated by the economic crisis, but a compulsory one, irrespective of the external environment, lately we notice an increased pressure in this regard. The "client" – the one who runs a campaign – wishes now, more than ever, to know the impact his money has bought. Although the PR world is a complex one, generally based on purely creative concepts, in the evaluation of the "client" it wishes to simplify to the fullest extent all the syllogisms and, finally, a clear answer to one single question: what impact has the amount invested in communication activities?

Keywords: evaluation in PR, communication campaign, Advertising Equivalency Value (AEV), the value of public relations, the principles of Barcelona

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1. Introduction

Without exception, the strategy of a communication campaign must be linked to that of the organization by promoting general common goals. In addition to increasingly complex and diversified corporate strategies, the need for evaluation is also required by the increased communication budgets, as well as specific channels and instruments. Let us not forget that the world of today's communication is significantly marked by the digital and social media revolution. Also, external pressures and professional requirements force communication specialists to address the assessment aspect more closely.

2. Purpose of the evaluation

Despite these new challenges, the *methods* on which most of the assessments are based have remained largely traditional. *Evaluations focus mainly on the number of published articles, readers, site traffic, unique visitors, etc.* Although these parameters should not be excluded, in order to be able to carry out an effective and relevant PR assessment, we need to introduce a new concept designed to facilitate the evaluation process from the campaign's conception phase, namely: **communication controlling**.



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The internal implementation of the “communication controlling” process offers methods and systems designed to define both the objectives of a campaign and the ways of measuring it. By focusing on transparency, **the controlling process makes available to communication specialists, as well as to stakeholders**, the followings:

- performance indicators,
- audit methods and
- reporting methods relevant for each of them.

In **evaluating a communication campaign**, the following parameters must be considered:

- **Input**– resources invested in a communication process
- **Output**– availability of the message in the external environment
- **Outcome**– the relevant effects the communication process has on stakeholders
- **Outflow**– economic effects correlated with the organization’s objectives and generated by the communication process

The latter parameter is relatively recent introduced in the specialist practice, being also the most difficult to assess.

In general, **the costs of evaluating a communication project** are small compared to the total amounts invested in the project. But, yes, a professional evaluation costs: there is a need for funds and well-trained people in the public relations evaluation segment.

3. Objectives of the evaluation

The evaluation of the public relations activity does not take place, as one might expect, only at the end of it. To ensure the success of a campaign or of any type of communication where certain goals are to be met, **the evaluation must take place before, during, and at the end of the PR campaign**. This is the only way to find out what the audience wants, in which adjustments can be made to what is going to happen along the way depending on the feedback received and in which the effects and outcomes of the activity can be seen, so that to ease the work of the PR representative in the future.

Unlike sales, marketing or advertising, where it has more to do with tangible figures and results, in public relations, this stage is more difficult, but all the more important. Many public relations specialists are struggling with this issue because it’s easy to find out how many people bought a product or how many have seen a TV ad, but it’s much harder to measure a company’s reputation, consumer’s loyalty, or a message’s degree of awareness.

Besides the need to know the results of the communication actions, the evaluation is motivated by the desire to do things better in the future, to know what has actually worked and what needs to be improved. In addition, another important reason is the need to validate the activities of public relations in front of clients or business executives who want to know if the time, the effort and the money invested in public relations have been well used and if they have accomplished the organizational goals.

How does assessment work?The evaluation is closely related to:

- targets set at the start of the campaign and



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- performance indicators.

The objectives must be:

- firstly, measurable,
- then realistic,
- oriented towards results,
- and compatible with customer's requirements.

In the most general terms, the evaluation can be of two types:

- quantitative and
- qualitative.

What is being evaluated in a public relations campaign?

1. First, the exposure to messages is measured. This measurement is quantitative and aims at:

- media coverage, i.e. the number of press releases and the number of people who have been in contact with the PR campaign message,
- the number of site visits, and
- the number of social media interactions.

In the case of an event, the effectiveness of media coverage can be measured quite simply taking into account the number of participants at that event.

2. Further, a higher level of assessment is represented by the level of public awareness, i.e.:

- if the message has been received,
- if attention has been paid to it,
- if it has been understood, and
- if it has been retained.

In this case, *the evaluation techniques* used are **totally different**.

3. The next step in the public relations hierarchy is **the modification of the public's perceptions and attitudes**, and one of the most important techniques to determine such changes is **the comparative study or the benchmarking**. This involves measuring attitudes before, during and after the campaign, thus determining the degree of influence of the public relations actions.

4. In the last instance, and most importantly, **the actions of the public are measured**. A public relations activity was successful if it managed to change the behaviour and actions of its audience, so as to achieve the organizational goals.

When the evaluation process is subject to certain prejudices, such as lack of time or lack of money, it is the public relations practitioner's duty to see and demonstrate the necessity of his work, especially in a world where the numbers are eloquent and no one has the availability to observe results and long-term changes.



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4. Current status of measurement and evaluation

The challenges faced by the PR industry inevitably reach the practice of evaluating, which is progressing heavily and unsatisfactory. Good evaluation practices remain minor and, in these circumstances, the value of PR in the face of other business functions is often questioned. The practice needs a reset in the field of measurements, a new beginning in the so far usages. Practitioners need to rethink the evaluation and reconnect it to the purpose of the PR activities and to the business processes, even if this is a laborious and costly process.

To the question “How can we measure *the value of public relations*?” Freddie Mercury would have answered: ‘Barcelona’... Leaving the joke aside, I believe that the adoption of the Barcelona Principles in 2010 was an important moment for the evaluation field, being the first time when professional organizations around the world have agreed upon the basic principles of PR research and evaluation.

One of the Barcelona principles tells us that **AVE is not the value of public relations**. **Jim Macnamara**, Visiting Professor at London School of Economics, said for PR Romania: “The Barcelona Principles should not surprise practitioners, while AVE-type evaluations are not a measure of value, but rather talk about a hypothetical cost.”

Crenguța Roșu, Managing Partner DC Communication, associates AVE with the saying “When all you have is a hammer, all your problems seem like nails.” If the PR activity is only a push on visibility and is regarded as “cheap advertising,” then advertising-type measures are applied. If what matters is visibility itself, without any positioning, attributes, relevance for target audiences, then only volumes per kilogram will be measured. If other result than the company being visible does not matter, then all that can be measured is how much money has been invested and how much it would have cost if the space had been bought.

In the recent years, the PR industry has made efforts to link the value of public relations to the value of business, but it cannot be said that this is standard practice in the domestic industry. **Robert Wynne**, the practitioner and author of the Forbes publication, stirred a new wave of indignation on Twitter following the publication of a document in June 2016 in which he exposed ‘the benefits of AVE’. Wynne argues that practitioners should consider customer needs, even when they contradict the standards of the professional community. In his opinion, the client is the one who gives the tone and decides whether AVE helps or not. The figures released recently by Kantar Media, the British media monitoring company, confirm that Wynne is not alone in the landscape. Of the 1000 clients monitored by Kantar, 25% still count on AVE-type indicators.

Ana-Maria Diceanu, Senior Partner of GMP PR, notes: “In Romania, and I do not think we are an exception, a lot of AVEs are still required, and even big brands ask for it... they are requested internationally. So we cannot say that Romania is slower in giving up AVE, no, by no means. I estimate that 70% of the market still requires AVE, 20% have understood that it does not help and 10% does not measure the PR in any way. But what I would like to hear more in Romania are the voices fighting against AVE.”

Returning from the AMEC annual conference, held in London from 14 to 17 June 2017, **Miron Mateescu**, CMO Media Image Group, says: “The AVE subject is associated with some sort of



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shame, because the big analysis 'houses' from abroad do not even want to hear about such 'metrics'. Those who are still using it are seen as a sort of pariah, a little pitied, something like 'ah, you cannot yet impose your own indicators on your customers.' But it is very interesting though that beyond the spotlights and the 'political' statements, almost everyone continues to use it, alongside other less 'shameful' indicators. The reality is that abroad, as in Romania, more than half of the final beneficiaries and agents require AVE as one of the most important performance indicators in communication. I do not want to go into pro or contra polemics, I just want to point out that, at international level, no one has the courage to publicly recognize that AVE is still one of the most sought-after indicators of most media analyzes."

George Domnișoru, Sales Director of MediaTRUST Romania, notices a discrepancy between the declarative assumption of standards and the practice of evaluation: "We are living an apparent paradox: all communicators know that AVE is not the value of public relations, and yet (almost) all ask for it in the reports, whether we are talking about media analyses, complex press files or even the simple daily reports, in one form or another ('gross' or weighted, the 'Weighted Media Cost' type). I say apparently, because in reality, the pressure on budgets is increasing, the need to justify the amounts invested and the effort made by a 'pragmatic', concrete indicator, easily understood by the non-specialists and especially the colleagues in the board (financial directors, general directors/presidents) make public relations specialists abandon the famous Barcelona principle."

Explanations of AVE persistence are multiple. **Marta Niculaie**, Communications Director of Roche Romania, believes that "AVE is still seen as a 'quick win' by many PR people, because in the end, the impact assessment of a communication campaign is translated into figures and AVE is an easy to calculate figure. Yet, not at all relevant. Its use is grounded and, unfortunately, we still see this KPI in some presentations. The discussion of how often this alleged indicator of project performance is used is an old one. As professionals, we need to take a step towards more sophisticated evaluations that highlight the real value our work really brings."

Alexandra Diniță, General Manager at Free Communications, believes that the AVE practice is still quite extended. "We use AVE in measurements when this is specifically requested by the client (and is still going on quite often), but evaluation always includes qualitative indices. AVE is not dropped primarily because of the need to calculate ROI through a simple, inexpensive, fast, and easy-to-understand mechanism. Is not dropped because AVE is the easiest way to 'sell' the PR to some categories that are not necessarily familiar with the communications industry and who are generally decision-makers in corporations (financial directors, boards of directors). The transition is gradual and has accelerated with the imposition of digital and social media. Large agencies are pushing for educating the market because they are already investing in new ways of assessing communication and have to attenuate their investments. From what I see, however, I do not think the AVE will be dropped very soon, I think it will continue to be used in parallel with other measurement methods."

Tudor Dăescu, Managing Partner at Dăescu Borțun Olteanu, adds: "AVE is the God of reporting in Romania. Even those who are aware of the lack of relevance do not have the budget that will allow them that measurement that gives them the conclusive data: hiring a research company to tell if their message was received by the target audience and how it was received. We will continue with the AVE as long as there are still big companies who say 'lucky' that we have this communication budget. We will continue



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with the AVE as long as communication is perceived only as an investment that has to bring ROI. And the first ROI is the square centimetre's value of a newspaper page sheet. No matter if your target audience is since long a reader of online niche publications from New York."

For **Ana-Maria Diceanu**, GMP PR, "AVE is a battle that increasingly resembles the fight against carrying a gun or against drugs. It is a habit that makes you feel in control and fulfilled. The real problem is that there is nothing else, just as simple, to replace the AVE in the reports that the PR man prepares for the CEO in his effort to attract budgets."

Andre Manning, Vice President of Corporate Communications Amcor, declares for PR Romania: "In pitch, when everything is a fight against time, the agency delegates a colleague with the mission to include in the presentation some slides that talk about the results. Everything has to happen quickly. With all the logistical deficiencies related to the new business process, I think 2010 was a new beginning for the public relations community, with the adoption of the Barcelona principles. With AVE being definitely 'cast out' of PR's instrumentation, the Barcelona Agreement is a step forward, even if the principles themselves will not definitively solve the issue of evaluation."

"There are probably a thousand arguments against AVE, but from my most important point I think AVE does not measure impact. However, in order to be credible and effective, a PR campaign must have impact, that is to bring about concrete changes of perception or behaviour. Otherwise, we get drunk with cold water. Our agency has migrated from AVE to more relevant measurement systems. It is an effort of continuous improvement, a costly but assumed effort. Yes, there are still 1-2 customers requesting AVE. The solution is that besides AVE we can offer other types of indicators, those who offer a more relevant picture," says **OanaBulexa**, MSLGROUP The Practice.

Ana-Maria Diceanu proposes to look closely at the "illusion of AVE". "We knew in the fundraising campaign for the 'Land Lamentation' we had to reach the € 6 million donation threshold. It helps me measure AVE every month? What good those it make me to know I have an AVE of over 6 million Euros until the end of the campaign, if I do not have the money in my account? And if we consider how much the subject is being talked about, I think we have already exceeded 6 million Euros in the AVE. What do we do instead? We overlap several figures and try to relate them qualitatively. We look at the donations'trend, we overlay it to the communicated topics, which we overlap over the tones of voice and over the spot'svisibility figures. I have seen moments in the campaign when a large volume of negative tone of voice has brought a lot of donations. So we can decide the next steps in the campaign."

Dana Dobrescu, Communication Manager at Unilever South Central Europe, notes: "I would like to think industry has quit AVE. I do not take this performance measurement indicator into account for years, and either the agency I work with does not send me this evaluation. There is no point in lying to each other; we all know that the basis from which this calculation goes does not reflect the reality, just as with impact assessments, which are often exaggerated, from my point of view. I think we have to go back to the value that the communication function brings to the business and, strictly related to the media appearances, we have to analyze the quality of the appearances we generate, the way we sent the company's messages, we have to know which are these strategic moments when we communicate these messages and to intend to make the voice of the company we represent be relevant in the media landscape, on the subject that the company has expertise in. Personally, I think the board of a company expects more from the PR people



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than an AVE rating of a media campaign and is our role to show that the communication function has a strategic role for business.

Over the past 7 years, professional organizations around the world have stepped up their disapproval towards AVE (Advertising Equivalency Value) measurements, pleading increasingly pressing for their banishment from the current assessment practice. But, contrary to the debates that have denied its relevance, the reality is that AVE has continued to persist, in Romania, but also outside it, among the tools of the communicators' guild. And the prominence and use of these measurements has greatly hampered the transition to relevant evaluation systems, assisting, in practice, to a frequent disconnection of communication from the business processes.

An AMEC initiative aims to completely eliminate the AVE metric from the public relations practice. The move seems bold, especially because it places debates on AVE in a market education area and firmly accepts relevant measurement practices.

Richard Bagnall, President of AMEC and CEO of Prime Research UK, said at the Bangkok summit in 2017: "The time has come to put an end to the unnecessary debates about AVE. AMEC will invest time and dedicated resources for the full eradication of AVE in the current practice." Bagnall also said that the demand for AVE measurements fell globally from 80% in 2010 to 18% in 2017, according to the latest research undergone by Prime Research. Another PRCA research from February 2017 indicates that 35% of the respondents reported using AVE in the current practice, 50% of them using AVE at customer's request.

Auto-regulation vs. regulation. The new CIPR position in the AVE debate. In support of the AMEC initiative, the Chartered Institute for Public Relations (CIPR) announced concrete measures to eliminate the use of AVE among British organizations. Thus, CIPR will publish in September 2017 a new professional standard for measuring public relations, qualifying the use of AVE as unprofessional and confusing. The new guide will highlight the role of CIPR's code of ethics in maintaining UK professional standards. CIPR members using AVE in the evaluation practice will have one year to transition to instruments considered relevant. Those who continue to use AVE after this period risk disciplinary measures, CIPR President **Jason MacKenzie** announced. Discipline remains, however, the form of these sanctions. In its 70 years of operation, CIPR was rather a guarantor of British professional standards. Through the AVE debate, the organization seems to assume the role of watchdog and regulator. The CIPR initiative, adds MacKenzie, responds strongly to the almost generalized belief that AVE is predominantly the problem of others – global brands, customers, purchasing departments, etc. In fact, the whole guild suffers from the use of irrelevant standards, says MacKenzie.

AMEC Initiatives to eliminate AVE-type measurements. Among the concrete initiatives to support the AMEC statements are:

- Creating an online Resource Centre to provide concrete arguments about the inadequacy of using this metric in public relations practice;
- The firm commitment of AMEC members not to provide AVE-type indicators in the standard service offer. If customers request this indicator, AMEC members will explain, based on standardized resources, why this tool is irrelevant and why it should not be included in the measurements. Instead, they will offer alternative measurements relevant to the practice of public relations;
- Improving the AMEC measuring platform – Integrated Evaluation Framework;



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- An educational program that promotes among the communicators the most relevant measuring instruments;
- Partnerships with local contest organizers for disqualification of applications that include AVE as an appraisal metric;
- Partnerships with international profile associations and universities to improve existing measurement and evaluation tools.

AVE, a business ethics issue? The debates on AVE bring back the issue of business ethics. In my opinion, the irrelevant and confusing measures (especially when they know their shortcomings and yet they decide to continue using the logic “another one is guilty”) defeat the elementary relationship between professionalism and truth, so vital in the communicator’s guild. After all, ethical standards are related to professionalism and are one of its prerequisite. Beyond a normative approach of the auto-regulation, which implies communicators’ acceptance of ethical tools, there is also a pragmatic approach that insists on the costs of wrong practices and the benefits of the guild’s compliance with minimum professional and ethical standards.

Against the backdrop of international debates about AVE, I find it a good time to move beyond the classical bias that separates ethics from professional performance. Thus, it is often said that business ethics, with all that it means, is just a personal option and, like any option, is something relative and useless.

However, to the extent that we are acting on the behalf of a business project, an organization, a client, we must take into account those whose interests may be affected. And, as we act as professionals and want to be perceived as such, the actions taken can no longer relate to what is supposed to be done, but to the standards of the profession we are claiming.

In business, in general, in business communication, in particular, moral marks are also professional standards, and not just their annexes, usable as some please. In addition, when included in the management decisions, as organizational strategies, these moral marks will also prove profitable, because moral values and practices generate trust in the profession and in the organizations and, indirectly, profit on the long run.

Acquisitions and perpetuation of AVE. Purchasing services through the procurement system is today a fairly common practice for the local communications industry. It is a system traditionally applied by multinational corporations, taken over by large Romanian companies that want to increase their costs. Almost without exception, multinationals have specialized procurement departments. As the communication market depends about 70% on the budgets coming from there, it can be said that the percentage of services contracted by the procurement is given by this percentage.

“If I look at the 1-2 customers who are still requesting AVE, but also the others on the market who still use this indicator, I tend to think that they are not the people who ask for it. Most of them know that AVE is completely irrelevant. Only that, in the last few years, the ‘client’ no longer means only the communication person, but also the purchasing person or the marketing man. For them, PR is only meaningful when compared to advertising. They are the ones who necessarily value PR services with the advertising ones; demand the PR agency fee to be no more than 10% of the supplier costs; compare the cost of one PR consulting hour with that of an art director and so on. The discussion, therefore, is not just about AVE, but how much it is known about what PR does in general as a stand-alone discipline. Until the



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common comparison to advertising disappears, it will be hard for the AVE to really die,” notes **Oana Bulexa**, Managing Director, MSLGROUP ThePractice.

Miron Mateescu, Media Image Group, completes the picture: “As long as such a highly specialized service is still bought exclusively through the purchasing departments of the big companies, the advising provided during acquisition remains virtually impossible. The professionals who are the final beneficiaries of the acquisition cannot be contacted, so in most cases in Romania (9 out of 10 for large companies), the provider has to respond ad-litteram, without many discussions. We are most likely left with the option to press lightly and patiently towards a general change of attitude, both in terms of how to buy such a service and, last but not least, to move to other evaluation systems.”

Ben Levine, Vice-President of Ketchum UK, comments: “The procurement specialists are quarterly under pressure to demonstrate financial efficiency and, most of the time, they are no longer keen to understand the long-term impact of PR activities. They want fast and palpable results. Let’s not forget that the role of procurement specialists is to save the company’s money, so they will do everything in their power to see their accomplished goal. This explains, at least in part, the demand and perpetuation of some indicators such as AVE in the rating systems. I encourage business communicators and procurement specialists to ask agencies for something else, not to be satisfied with just output or AVE analyzes. At the same time, the PR industry and monitoring specialists have to convince them of the irrelevance of metrics and indicators such as AVE and advocate for the use of reasonable indicators of outcomes.”

Linking communication to business processes and the impact on measurements. I have come inevitably to the legitimate question: How do we explain the success and perpetuation of AVE despite the obvious deficiencies? Why do not we give up on it? If there are other measurement possibilities, if one can see results, one can track the progress of the communication process, why not? **Crenguța Roșu** explains: “Because it supposes the approach of communication as part of the processes in the company: information is a product by means of which the target audiences can better fulfil their role: partners in business projects, employees in understanding the direction of development, involvement, and solutions for a better functioning of the company, customers in the informed choice of services and products.”

The predominance of AVE measurements shows in fact a massive disconnection of communication from the business processes. If we want a peer to peer treatment in front of other business functions, then the measurements need to be reconnected to the ‘big ensemble’. The practice of punctual and irrelevant assessments will greatly hamper the transition to more relevant measurement systems. In evaluating, disconnecting an audience from other audiences does not provide the full picture.

It’s a more laborious move, **Crenguța Roșu** believes, but you better measure thrice and cut once. Also **Crenguța** believes that over-analysis leads to procrastination and blocking the decision. As in all, in fact, there is the middle way, which is the most difficult.

Let’s see how this reconnection of communication with the business processes with direct implications on measurements would look like. **Crenguța Roșu**’s argument proves to be functional. When communication is integrated into the company processes, and communication is part of the activity and not an appendix, **the measurable parameters are**, in addition to volumes:

- the quality of the understanding and the type of retrieved messages,
- the action generated and



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- the progress made in establishing dialogue on relevant themes.

Moreover, in *the set of metrics*, one can separate:

- topics that were more interesting from those less interesting,
- the media most interested in topics and,

then, establish a connection with:

- the type / profile of the reader,
- key themes in the industry,
- how they correspond to the proposed agenda,
- who undertakes certain topics,
- which topics have been more poached than others?

And this on the media relations segment - on and off.

5. A new Pandora'sBox: onlineAVE

"At present, I would also notice a worrying trend in the Romanian market, namely the one to associate a moneyvalue with the online media articles or even with the social media posts. Such a tendency opens a Pandora's Box in terms of subjectivism or 'adocracy', which would probably be the two biggest enemies of a correct media analysis," says **Miron Mateescu**, Media Image Group.

George Domnişoru, mediaTRUST Romania, adds: "Online media have become very important, social media is unavoidable nowadays, so that the demands for AVE reporting in online, in general, and social media, in particular, are on the carpet, despite the existence of indicators with a higher quality component, such as engagement."

"With media migration to online, the idea of 'column inch' becomes ridiculous. Moreover, the idea that an online article might be equivalent to an online ad or an online banner is even more ridiculous, if I were to use the conclusion of the media critic **Bob Garfield**, 'no sentient human being ever intentionally clicked on a banner add'," says **Katie Delahaye Paine**, CEO of Paine Publishing, LLC.

Because the social media segments also have their associated metrics, besides the likes and shares, here as well the use of the right analysis tools and their right set-up could also show us more, so as to be aware of:

- what the fans say,
- what they prefer,
- what concerns they have,
- what information is useful to them and
- comparisons are made with similar competition media,
- comparisons are made with similar market media on the whole, to see more correctly where the company is located ... etc.

The following are the analyses made for the communication with the employees - ranging from:

- observing and analyzing the types of interaction
- up to direct investigation.

The same for business partners:



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- from one-on-one interviews
- to polls.

All this will be associated to the relevant business topics and projects.

Disconnecting an audience from the others ones does not give the full picture. Even if the analysis is based on media (in order to compare the same units of measurement), at the end, in a score-card of communication integrated on media and strategically approached—all the parameters will be there and, at the end, many more meaningful action channels will unfold. We can see what the common topics of cross public are, we can see the problems that exist, where it is best to place the resources – precisely from parsimony.”

Pioneering provision instead of deadlock. AVE is part of the arsenal of bad ideas that the public relations discipline has advanced and practiced for some time now. The members of the Institute for Public Relations Measurement Commission in the US have recently wondered who had originally the idea of using AVE, but could not decide whom to grant this “honour”.

At the 2017 summit in London, AMEC presented an integrated and interactive measurement framework (AMMF). Originally developed for social media by Prime Research, the tool is free and allows the organizations:

- add online the details of the communication projects,
- set goals and
- develop an evaluation plan.

The launch of ICMF is certainly a good news, but we must be aware that AVE does not disappear based on the Barcelona principles or the standards that will be agreed from now on. There is a need for a change of perception at the practice level. Personally, I think it would help us see public relations as a profession where we can apply values that are important to ourselves. Sincerity, dignity, transparency and relevance for others are central values in PR.

Ana-Maria Diceanu, GMP PR, notes: “I would like to see a consistency between what specialists in monitoring, reporting and PR preaching and what they do. It’s not easy, and I know how difficult it is to refuse customers when they ask us for AVE, but if you’ve chosen a road, stick to it all the way, no matter the immediate losses. Neither the excuse ‘we are asked for AVE, there’s nothing we can do’ does not seem to me worthy of a professional. If we want to change the perceptions as to the role of the PR in achieving the goals, we must start to fight more intensely for a qualitative measurement of the communication efforts. The fight against AVE is not relevant, but what we bring in exchange for AVE. How important in achieving the business goals is what we use instead of the AVE, that’s actually the biggest stake.”

Rareş Petrişor, Head of Strategy at Media Pozitiv, adds: “The AVE void must be filled with ‘helped’ assessments, based more on one technology, using the software that has been present on the market for some time. It’s a difficult transition towards math, but the PR will not lose its importance or emotion by boeing more with the bits. We do not have to ‘accept’ a new paradigm, but simply create it.”

If practitioners will cease to request AVE measurements, than the switch to other evaluation techniques will be natural. I think it is up to all practitioners and PR specialists to actively contribute to the change. The guild needs more than ever strong voices, enthusiasts of good ideas and in-house activists able



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to convince specialists and non-specialists of the irrelevance of AVE measurements. But in order to do this, practitioners need to develop their knowledge of measurement, confidence in their own beliefs, and actively contribute to accepting the PR profession by other business functions.

Large number reflex: onlineAVE – Earned Media Value (EMV). A worrying trend is to associate money value with articles in online media or even with social media posts. In a recent article, British consultant **Stephen Waddington** speaks with concern about the evolution of the online AVE phenomenon. It refers in particular to Earned Media Value, in short EMV. This metric is particularly promoted by online tool providers, media agencies and public relations consultants as an easy way to compare online campaigns. EMV emerged as classical media relations lost ground and, in their place, the relations with the influencers developed. As with AVE, EMV suggests that the space earned in online and social media through public relations and social media activities is equivalent to the same space paid in online advertising.

Scott Guthrie, management consultant and social media marketing specialist, believes EMV is already rooted because it provides a simple answer to a complex issue. “The customers’ appetite for large numbers. They give the impression of ROI, though, in fact, they do not offer any clue whether the online campaign has worked or not.”

6. Conclusions: AVE is not a legitimate way to measure ROI in public relations

Experts conclude: There is no evidence to suggest that the editorial space obtained through public relations has the same value as that obtained through advertising.

The Measurement and Evaluation Committee of the Public Relations Institute took a stand on the use of AVE (Advertising Value Equivalency) as an assessment measure in public relations. In the field of communication and media relations, AVE suggests that the space and time earned in media through public relations is equivalent to the same space and time paid in the media, bought as advertising.

ROI (Return of Investment) is a comparative analysis of investments in relation to the benefits. That is, it is the way to measure whether a certain investment has been profitable in the long or short term. An example would be hiring a social media specialist in a company that will improve the relationship with the public in the online environment. It is an investment that benefits the company in the long run. ROI analysis may be difficult to measure in some cases, especially if the benefit is not immediate and involves a long series of factors to be taken into account.

After a year of research and debates on the subject, the committee’s IPR members came to the conclusion that there is no evidence to suggest that the editorial space and the advertising have the same value.

The advertising is purchased and allows full control of the advertiser over content, placement and frequency, and is always positive.

By contrast, the publicity or the media won is only semi-controllable after the release of materials to the media channel, and can lead to positive, neutral or even negative messages. “It was about time an important voice in PR research and evaluation to reject this practice,” said **Robert W. Grupp**, President and CEO of the Institute for Public Relations. “The use of AVE has distracted industry’s attention from more valid forms of measuring the impact of public relations on business objectives and targets.”



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“AVE is not a legitimate way to measure the return-of-investment in public relations,” wrote **Dr Brad L. Rawlins**, who chaired a team from the IPR Commission on the subject. Dr. Rawlins is also chair of the Department of Communication at Brigham Young University. “Even more problematic is the use of AVE to illustrate the results of public relations and the return of financial investment. This practice often prevents us from taking into account the more important public relations outcomes.”

IPR Commission on Public Relations Measurement and Evaluation aims:

- the establishment of research and evaluation standards in public relations,
- the establishment of research and evaluation methods in public relations,
- the drafting of “white paper” documents on research and good practice.

Its members are leaders in PR research, specialists from universities, companies and corporations. The Commission met on 8th of October 2010 at its eighth Summit on Measurement in Portsmouth and voted unanimously on the adoption of the Commission’s Task Force Report prohibiting the use of AVE in the public relations industry. The report is available on the Institute for Public Relations website.

“In the report, the Commission recognizes that the use of AVE is a practice that is often used, because the calculation of AVE is affordable and does not cost,” said Commission President **Pauline Draper-Watts**. “But this does not justify the practice as an appropriate one.”

Dr. Rawlins added, “The cost of advertising is not a useful measurement method. Advertisers do not use the costs of placing ads as evaluation results. It’s a cost by which the effect of increasing sales or brand awareness is obtained. Therefore, it is of no use for public relations to compare the results with the costs of obtaining advertising results. Publicity is not a result; it is a process through which much more important results are achieved, such as protecting the reputation or increasing awareness regarding responsible behaviours.”

The position taken by the IPR Commission supports the Barcelona Declaration of Research Principles, a relatively new set of standards and practices that guide the measurement and evaluation of public relations. The principles were discussed in Barcelona in June 2010 and adopted by the delegates who have participated to the second European Summit on Measurement organized by the International Association for Measurement and Evaluation of Communication (AMEC) and the Institute for Public Relations (IPR).

Firstly, the IPR Commission promotes the assessment and measurement practices that demonstrate the extent to which public relations contributes to the organizational goals. Finally, impact-based measurements – such as awareness, understanding, attitudes and behaviours – provide a much better way of demonstrating the unique impact of public relations.

Media coverage is a valuable way to evaluate public relations focused on the media and the way in which intentional and unintentional messages are spread. Where possible, the Commission suggests that it is preferable to isolate messages generated by public relations and to control other variables in order to more accurately measure the impact on target audiences.

Institute for Public Relations is an independent non-profit organization, headquartered at the University of Florida. It brings together the academic and professional fields, supporting research in the field of public relations and the application of theoretical knowledge in practice.



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Members of the IPR Commission, besides Dr. Rawlins who was part of the AVE team, are: Toni Griffin, Public Relations Director, MetLife; Rebecca Harris, Research and Measurement Strategist for General Motors; Fraser Likely, President, Likely Communication Strategies Ltd.; Tim Marklein, Executive Vice President, Measurement & Strategy, Weber Shandwick; Mark Weiner, CEO of North America, PRIME Research.

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IoT E-business applications

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Abstract. “Internet of things” (IoT) will develop soon an ecosystem of internet-connected things that facilitates the mobile commerce experiences and the client need to be informed all the time. It will be associated with a feeling of freedom and capacity of doing very easy what was considered difficult in the past.

Nevertheless, these opportunities will not be capitalized upon without overcoming a series of obstacles, including addressing consumer privacy concerns, the long replacement cycles of durable goods and the standardization of operating platforms.

Modern E-business web applications are now developed using new technologies such as NodeJS, AngularJS and Bootstrap. The article identifies and solves practical issues regarding the JSON exchanged messages between NodeJS and AngularJS within SMEs E-business environment.

Keywords: IoT, JSON, AngularJS, NodeJS, E-Business, REST.

JEL Codes: L17, M15

1. Introduction

IoT became a reality in every single common activity and in the near future will be more present in our daily lives. “E-commerce therefore, would view competitiveness in organizations, practices and market-reach as factors affecting the productivity of an economy” [Umachandran, 2017].

Welcome Cross-border business-to-business (B2B) e-commerce portals offer important advantages for early-mover adopters. The advantages refer at amplifying the inverted U shape effect of early-mover [1]. After a scientific analysis, the authors recommend these platforms be developed in bootstrap technology with java functionalities, based on AngularJS and NodeJS.

Software developers enjoy modern technologies such as NodeJS, JSON (JavaScript Object Notation), AngularJS. In cross site scripting, they encounter some difficulties regarding the JSON middleware, using Angular/Node JavaScript on client-server architecture.

The authors noticed from practice that new technologies such as AngularJS and NodeJS are not fully documented, many design flows being neglected by the end users’ perspective.



The authors embraced this JavaScript technology and tried to promote it making it suitable even in the most unfriendly environment, providing solutions for the encountered errors.

The result of the authors' research and their practical attempt was a dynamic web report with full AJAX search capabilities on a SMEs economical data structure.

After [2], AngularJS has some advantages, compared with JQuery:

- RESTfull API – we may create an AngularJS controller module that will consume a REST service, by using \$http get service method.
- MVC Pattern Support – it provides the separation of application logic, data models, and views – a task that needed employment of big frameworks (ASP.NET, JavaEE with Tomcat, etc.) in the past.
- Templating – we may specify the html that will be appended or replaced when we define a custom directive by using an inline template.
- Two way data binding – we can use the ng-model directive on HTML controls to bind the model to the view that provides a two-way binding between the model and the view.
- Dependency management – we need to pass a list of dependencies, known as injectables when we declare a module.
- Deep-link routing – we can enable users to bookmark and share specific pages by using the \$routeProvider
- Form validation, e.g.

```
$scope.fields = [  
{placeholder: 'Username', isRequired: true},  
{placeholder: 'Password', isRequired: true}];
```

– Integration test runner – it was designed to be testable during the loops of lifecycle software development, having even a unit test runner (Karma) and an end-to-end test framework (Protractor). With the Automated Quality Analysis (AQUA), AngularJS is very easy to be integrated in any step of the software lifecycle.

2. Case study – Filtering a Romanian SMEs data structure with AngularJS

NodeJS runtime environment had been used to feed a JSON response for a client AngularJS application:

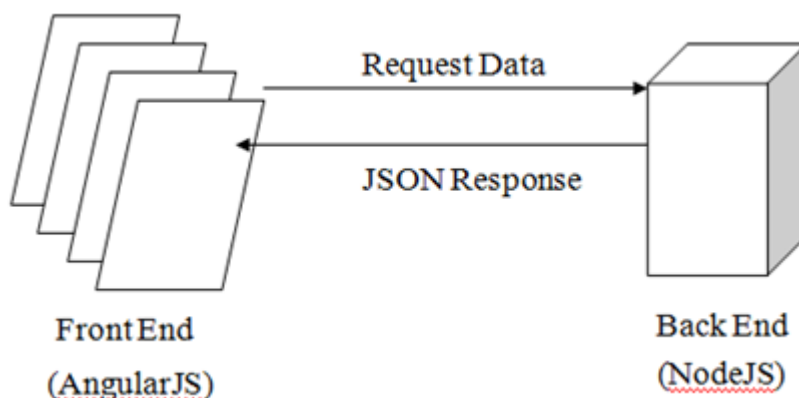




Fig. 1: Front End – Back End communication between NodeJS and AngularJS.

Unlike in the case of XML, JSON files are a convenient option for storing data – JSON files being less cluttered and easy-to-read, making information easily to be accessed by the SON users, and can either be represented as a hash of properties and values (Object), for e.g. [3].

```
var app = angular.module('myApp', [])  
.controller('LocController', function($scope) {  
  $scope.people = [  
    {name: "Radu", city: "Bucuresti"},  
    {name: "Emil", city: "Braila"} ]; })
```

or as a list of values (Array), for e.g. [4].

```
var app = angular.module('myApp', [])  
.controller('SelectController', function($scope) {  
  $scope.countries = ["Romania", "Belgium", "Washington"]; })
```

The server script is inspired from [5] and adapted to the SMEs data structure.

```
// load the http module and store the returned HTTP instance into an http variable  
var http = require("http");
```

// create a server instance and then bind it to port 8089 using the listen method associated with the server instance

```
http.createServer(function (request, res) {  
  // Send the HTTP header  
  // HTTP Status: 200: OK  
  // Content Type: text/plain  
  // Website you wish to allow to connect  
  res.setHeader('Access-Control-Allow-Origin', 'http://localhost:8089');  
  // Request methods you wish to allow  
  res.setHeader('Access-Control-Allow-Methods', 'GET, POST, OPTIONS, PUT, PATCH, DELETE');  
  // Request headers you wish to allow  
  res.setHeader('Access-Control-Allow-Headers', 'X-Requested-With,content-type');
```

// Set to true if you need the website to include cookies in the requests sent to the API (e.g. in case you use sessions)



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```
res.setHeader('Access-Control-Allow-Credentials', true);
```

```
res.setHeader('Content-Type', 'application/json');
```

```
res.end(JSON.stringify({ "records":[
```

```
{ "Name": "AXEL COMPANY SRL", "City": "ABRUD", "TotalAssets": "3023661", "KT": "774274", "BP": "272622",  
"YEAR": "2013", "CAEN": "5152"},
```

```
{ "Name": "DORA LACT SRL", "City": "AIUD", "TotalAssets": "170245", "KT": "72446", "BP": "86814",  
"YEAR": "2013", "CAEN": "1725"},
```

```
{ "Name": "BIOTERRA SRL", "City": "DOSTAT", "TotalAssets": "18935884", "KT": "677489", "BP": "102852",  
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```

```
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```

```
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"YEAR": "2012", "CAEN": "5152"},
```

```
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"YEAR": "2012", "CAEN": "1725"},
```

```
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"CAEN": "1725"},
```

```
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```

```
{ "Name": "AGRA OARDA SRL", "City": "OARDA", "TotalAssets": "518773", "KT": "202300", "BP": "92680",  
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```

```
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```

```
{ "Name": "DORA LACT SRL", "City": "AIUD", "TotalAssets": "155971", "KT": "714", "BP": "26500",  
"YEAR": "2011", "CAEN": "1725"},
```

```
{ "Name": "BIOTERRA SRL", "City": "DOSTAT", "TotalAssets": "17283508", "KT": "866152", "BP": "90092",  
"YEAR": "2011", "CAEN": "1725"},
```

```
{ "Name": "AGRO ITAL SRL", "City": "OIEJDEA", "TotalAssets": "891254", "KT": "2451923", "BP": "14114",  
"YEAR": "2011", "CAEN": "1713"},
```

```
{ "Name": "GLADIOLA COMPROD SRL", "City": "BLANDIANA", "Total Assets": "50624", "KT": "20091",  
"BP": "4777", "YEAR": "2011", "CAEN": "1713"},
```

```
{ "Name": "BIO CAMELOT SRL", "City": "OARDA", "TotalAssets": "1422", "KT": "-12659", "BP": "0",  
"YEAR": "2010", "CAEN": "9302"},
```

```
{ "Name": "BLUE COMPANY SRL", "City": "ALBA IULIA", "TotalAssets": "116089", "KT": "-100292", "BP": "-82481",  
"YEAR": "2010", "CAEN": "9271"},
```

```
{ "Name": "BEST SOUND RADIO ENERGY", "City": "CUGIR", "TotalAssets": "17897", "KT": "-33769", "BP": "5310",  
"YEAR": "2010", "CAEN": "9220"},
```



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```
{"Name":"BIOS SRL","City":"ALBA IULIA","TotalAssets":"7157","KT":"-31544","BP":"3260", "YEAR":"2010",  
"CAEN":"8514"}.....  
] });  
}).listen(8089);
```

The case study is based on data regarding Romanian SME's, and contains the company names, the city and the financial data (total assets, total capital, gross profit, and CAEN – classification of national economic activities), available online at <http://www.smesonline.eu/indexen.html> [6]. In figure 2, there is a sample of Romanian SMEs. It was also implemented a filter on this specific data structure that can be applied to any available field.

Name	City	TotalAssets	KT	BP	YEAR	CAEN
BIOTERRA SRL	DOSTAT	18935884	677489	102852	2013	1725
BIOTERRA SRL	DOSTAT	18401875	604291	255751	2012	1725
BIOTERRA SRL	DOSTAT	17283508	866152	90092	2011	1725
BIO CAMELOT SRL	OARDA	1422	-12659	0	2010	9302
BIOS SRL	ALBA IULIA	7157	-31544	3260	2010	8514

Fig. 2: Filter on Company name on Romanian SMEs data

AngularJS makes developing web application easy even for those not accustomed with JavaScript or JQuery, providing the separation of application logic, data models, and views (MVC).

There are two ways of updating the scope when the view modifies it, being sure that the view will immediately update when the scope changes, by using expressions `{{...}}` or by using `ng-bind` directive, for e.g. `<p>{{language}}</p>` instead of `<p ng-bind="language"></p>`

Filters can be applied in view using binding curly braces or in controller by using filter service. E.g.:

```
var app = app.controller('NameController', ['$scope', '$filter', function($scope, $filter) { $scope.name =  
$filter('lowercase')('Radu'); }]);
```

We decided to use the first alternative, as may be seen in the client code bellow, adapted after [7].

```
<!DOCTYPE html>  
<html>  
<script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.4.8/angular.min.js"> </script>  
<body>  
<div ng-app="myApp" ng-controller="customersCtrl">
```



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```
<label>Search: <input ng-model="searchText"></label>
<table>
<tr><th>Name</th><th>City</th><th>TotalAssets</th><th>KT</th><th>BP</th><th>YEAR</th><th>CAEN</th></tr>
<tr ng-repeat="x in myData | filter:searchText">
<td>{{x.Name}}</td>
<td>{{x.City}}</td><td>{{x.TotalAssets}}</td><td>{{x.KT}}</td><td>{{x.BP}}</td><td>{{x.YEAR}}</td><td>{{x.CAEN}}</td>
</tr></table></div>
<script>
var app = angular.module('myApp', []);
app.controller('customersCtrl', function($scope, $http) {
  $http.get("http://localhost:8089/").then(function (response) {
    $scope.myData = response.data.records;
  });
});
</script></body></html>
```

The \$http service is a core Angular service that facilitates communication with the remote HTTP servers via the browser's XMLHttpRequest object or via JSONP. The \$http service is a function that takes a URL used to generate an HTTP request and returns a response object with data and status properties [8].

Comments - Errors that may appear in RESTfull applications:

2.1. Error: Access to restricted URI denied

Motive: A resource makes a cross-origin HTTP request when it requests a resource from a different domain than the one which the first resource itself serves.

Solution: The Cross-Origin Resource Sharing standard works by adding new HTTP headers that allow servers to describe the set of origins that are permitted to read that information using a web browser [9].

```
// Website you wish to allow to connect
```

```
res.setHeader('Access-Control-Allow-Origin', 'http://localhost:8089');
```

```
// Request methods you wish to allow
```

```
res.setHeader('Access-Control-Allow-Methods', 'GET, POST, OPTIONS, PUT, PATCH, DELETE');
```

```
// Request headers you wish to allow
```

```
res.setHeader('Access-Control-Allow-Headers', 'X-Requested-With,content-type');
```

```
// Set to true if you need the website to include cookies in the requests sent to the API (e.g. in case you use sessions)
```

```
res.setHeader('Access-Control-Allow-Credentials', true);
```



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2.2. Error: CORS header 'Access-Control-Allow-Origin' does not match 'http://localhost:8089'

Motive: Firefox and Chrome require exact domain specification in Access-Control-Allow-Origin header. For servers with authentication, these browsers do not allow "*" in this header [10].

Solution: Use IE instead.

3. Conclusions

This paper aims to demonstrate the advantages of the new wave of web technologies and the facilities brought by IoT. It provides some practical solutions to avoid errors in cross site scripting. The article reveals the advantages of using these technologies for cross-border business-to-business (B2B) e-commerce portals.

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Engaging Romanian teachers in a 3D feedback process

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Abstract. This article presents a comparative overview regarding pupil's perceptions about quality of the educational act. Some of the key topics that are taken into consideration are the culture of learning environment, the expectations, the confidence and the feelings about the school's climate. The research is a specific practice within Teach for Romania organization that comes as an innovation method in the Romanian educational system and only applies to teachers of TFR.

Keywords: Teach for All, Teach for Romania, Panorama Teachers Survey, engaging, feedback process

JEL Codes: I21

1. Introduction

Teach for All supports its partner organizations in transforming the educational context of their countries from the inside, learning from each other, sharing solutions, and accelerating their overall impact. The teachers, alumni, and employees of the network adapt their solutions to the local context, generating innovations that can be shared to accelerate progress across the network. The mission of Teach for All is to extend access to education all over the world by increasing and accelerating the impact generated by organizations cultivating the necessary leadership for transformational change. Given the similarity in the nature of the problems faced by the countries participating in the network, solutions can be shared across frontiers. Teach for All is present in over 46 countries.



Fig. 1: Teach for All network,
Source: <http://teachforall.org/en>



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Teach for Romania is a Teach for All subsidiary, created for children in Romania today, in order to achieve their basic education. The knowledge they acquire in school and the environment in which they grow up are crucial for creating their future life options. The quality of education received before the age of 15 determines children's life trajectory.

According to PISA's 2012 international survey, Romanian students are the least motivated of all students of the 65 countries analyzed. Other recent international studies demonstrate that Romania's education system ranks towards the bottom of both European and global rankings.

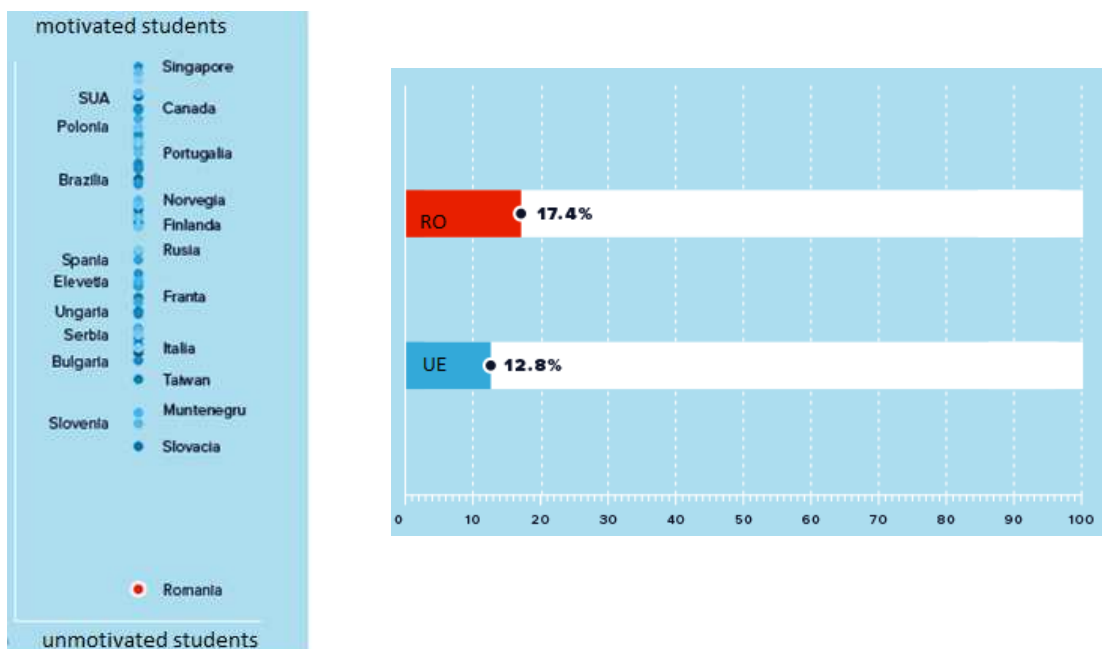


Fig. 2: School motivation and school drop-out rates

Source: <http://en.teachforromania.org>

Lack of motivation is a real and alarming problem. Upwards of 40 percent of high school students are chronically disengaged with school, according to a 2003 National Research Council report on motivation.

The causes of the aforementioned results are complex and varied, but there are three underlying key factors:

- Parents' limited education and involvement: The low level of parents' education and their limited involvement in their children's schooling generate a vicious circle: children from disadvantaged schools become parents with low education who cannot help their own children succeed and surpass the limits imposed upon them by their environment.

- Poverty: although school in Romania is free, an average family spends approximately €400 per student on school uniforms, materials and other school-related costs. This can make school prohibitively expensive for certain families. Often, children are asked to work alongside their studies in order to



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contribute to covering household and school costs. This reduces the time available for learning and individual preparation and can ultimately lead to parents taking their children out of school.

– Lack of motivation: the teaching profession has become a last option for top Romanian graduates. Teacher salaries in Romania are among the lowest (as a percentage of average income) of all countries participating in the 2012 PISA survey. This reality is confirmed by the fact that more than 50% of those who took the 2013 national teacher certification exam did not achieve a grade above seven, the minimum required for access to permanent teaching positions.

– Attitude towards students: Romanian teachers' expectations of "problem" students are usually low, with a focus on keeping students in the classroom rather than on improving academic performance. Faced with such low expectations, students see no reason to make an effort to study or to even attend classes. They thus face an increased risk of dropping out before finishing their studies.

– Discrimination against disadvantaged students (e.g. Roma, rural students) often leads to de facto segregation caused by "white flight," non-Roma parents taking their children out from Roma schools or explicit segregation by creating separate classes for Roma students or assigning them to special education classes. Ultimately, underperforming students come predominantly from families affected by poverty with limited experience of formal education. Rather than counter these problems, the Romanian education system tends to exacerbate them, reinforcing stereotypes and augmenting inequalities.

The Teach for Romania model was initially developed in 1990 by Teach for America in the United States. It aims to attract top graduates who would not have normally considered the teaching profession among their future professional options. The model works successfully in 34 countries across 5 continents, where it is implemented by the partner organizations of the Teach for All network.

Since the spring of 2015, every year, teachers are 3D evaluated by using Panorama Teacher Survey to give school and organization a tool to collect feedback from pupils. The survey is designed to spark and support productive conversations between teachers and pupils about professional learning, school communication, and school climate. The report is available only for the members (teachers and mentors) of TFR community.

2. Research methodology

The research is split in all the countries that TFA has teachers, and my contribution is to compare the results obtained for TFR with the average of the network in order to see if there are some major differences.

This quantitative research was for the part of the year during which school is in session, typically lasting from September 2016 to June 2017. A classical questionnaire was distributed to the students of all the classes where the TFR's teachers have courses and in the primary schools the questions were adapted to the level of comprehensions of the pupils.

The main objectives measured are: the rate of encouraging and supportive relationships, engaging learning environment established, learning fully internalized, positive culture and learning environment, rigorous expectations held, student input and ideas valued, understanding checked for and ensured.



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- ***Encouraging and supportive relationships fostered***

90% Romania

Global Network average: 82% Teach For All

Q.1: I like the way my teacher treats me when I need help.

Q.2: My teacher is nice to me when I ask questions.

Q.3: My teacher in this class makes me feel that s/he really cares about me.

Q.4: If I am sad or angry, my teacher helps me feel better.

Q.5: The teacher in this class encourages me to do my best.

Q.6: My teacher seems to know if something is bothering me.

Q.7: My teacher gives us time to explain our ideas.

- ***Engaging learning environment established***

76% Romania

Global Network average: 72% Teach For All

Q.1: School work is interesting.

Q.2: We have interesting homework.

Q.3: Homework helps me learn.

Q.4: School work is not very enjoyable. Do you agree?

- ***Learning fully internalized***

84% Romania

Global Network average: 78% Teach For All

Q.1: My teacher takes the time to summarize what we learn each day.

Q.2: When my teacher marks my work, s/he helps me understand.

- ***Positive culture and learning environment created***

48% Romania

Global Network average: 56% Teach For All

Q.1: My classmates behave the way my teacher wants them to.

Q.2: Our class stays busy and does not waste time.

Q.3: Students behave so badly in this class that it slows down our learning.

Q.4: Everybody knows what they should be doing and learning in this class.



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- ***Rigorous expectations held***

82% Romania

Global Network average: 84% Teach For All

Q.1: My teacher pushes us to think hard about things we read.

Q.2: My teacher pushes everybody to work hard.

Q.3: In this class, we have to think hard about the writing we do.

Q.4: In this class, my teacher accepts nothing less than our full effort.

- ***Student input and ideas valued***

86% Romania

Global Network average: 82% Teach For All

Q.1: My teacher asks questions to be sure we are following along when s/he is teaching.

Q.2: My teacher checks to make sure we understand what s/he is teaching us.

Q.3: My teacher tells us what we are learning and why.

Q.4: My teacher wants us to share our thoughts.

Q.5: Students speak up and share their ideas about class work.

Q.6: My teacher wants me to explain my answers – why I think what I think.

- ***Understanding checked for and ensured***

84% Romania

Global Network average: 83% Teach For All

Q.1: My teacher explains things in very orderly ways.

Q.2: In this class, we learn to correct our mistakes.

Q.3: My teacher explains difficult things clearly.

Q.4: My teacher has several ways to explain each topic that we cover in this class.

Q.5: I understand what I am supposed to be learning in this class.

Q.6: My teacher knows when the class understands, and when we do not.

Q.7: This class is neat – everything has a place and things are easy to find.

Q.8: If I don't understand something, my teacher explains it another way.

Q.9: When s/he is teaching us, my teacher asks us whether we understand.

3. Conclusions

Due to the violence in which students are living every day, positive culture and learning environment is the most difficult thing to be achieved in the classroom. Only half of the teachers manage to have a good



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indicator score. Both TFR and TFA have the same issue and in our country things are even worst. The other indicators (Fig. 3) are almost similar in both areas and the results are very encouraging.

3D evaluation, using student's perception of the quality of educational act, is very useful for the organization in order to have strategic interventions for increasing it.

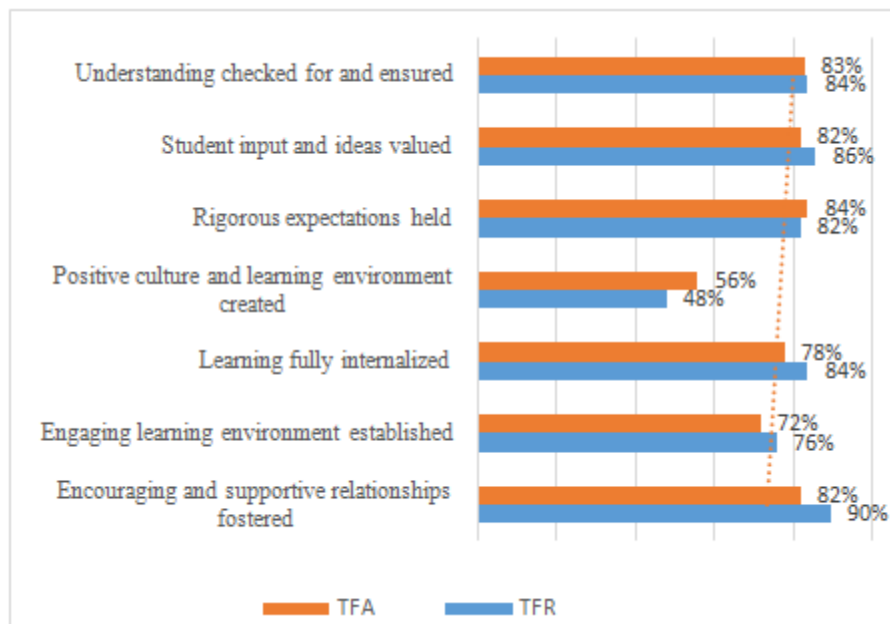


Fig. 3: Survey summary

Source: data processed by the authors' text.

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Mutual Trade and Cross-Border Economic Interaction of Ukraine and Slovak Republic

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Abstract. The Slovak-Ukrainian border, as well as the mutual economic interaction has been changing in the course of the following periods: a) 1993-2004: the bilateral intergovernmental regime of the border; b) 2004-2016: the community regime of the border between the EU and Ukraine, and c) the new border regime after the signing and subsequent implementation of the Association Agreement between the EU and Ukraine, including the Deep and Comprehensive Free Trade Area Agreement (DCFTA), as well as an agreement on visa-free regime between the EU and Ukraine. Within the outlined context, the paper seeks to explore the history and dynamics of Slovak-Ukrainian mutual economic interaction, as well as the recent conditions in the CBC area, the understanding of which may contribute to building capacities of CBC actors to make best use of opportunities brought by AA/DCFTA and thus consequently boost economic development of the Slovak-Ukrainian borderland regions.

Keywords: Ukraine, Slovakia, DCFTA, trans-border regional development, cross-border economic interaction

JEL Codes: F20, F53, R11

1. Introduction

The Slovak-Ukrainian border has been changing in the course of the following periods: a) 1993-2004: the bilateral intergovernmental regime of the border; b) 2004-2016: the community regime of the border between the EU and Ukraine, and c) the new border regime after the signing and subsequent implementation of the Association Agreement between the EU and Ukraine, including the Deep and Comprehensive Free Trade Area Agreement (DCFTA), as well as an agreement on visa-free regime between the EU and Ukraine. Recently, we can identify two key exogenous factors determining political opportunity structure for CBC and trans-border regional development on Slovak-Ukrainian border as a part of the external border of the EU: 1) EU CBC programmes, including the programmes of the European Neighbourhood Policy; and 2) the national policies of Slovak Republic as an EU-member country and Ukraine as a neighbour country sharing an EU external border. As it was documented by results of the research projects EXLINEA, EUDIMENSIONS and EUBORDERREGIONS, the understanding of the particular political opportunity structure may contribute to building capacities of CBC actors to make best use of opportunities brought by AA/DCFTA and thus consequently boost economic development of the Slovak-Ukrainian borderland regions.



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2. Slovakia-Ukraine economic interaction before 2004

Transition economies of Central and Eastern Europe faced at the beginning of their transition process a difficult task. Background of economic processes often based on the trade-off (or “quid pro quo”) type of relationships required a number of compromises. This included also the shift of international trade from east to west, resulting in loss of some positions in the markets of the former Soviet Union countries. In the early 1990s, the Czechoslovak political elites made a concentrated effort to shift foreign trade away from the former Soviet Union and former Soviet Bloc countries and to the European Union and the United States. The split of Czechoslovakia into two independent states further shaped the conduct of economic policy in Slovakia. The first changes of the federal transition strategy started to be implemented at the end of 1993 and besides economic objectives, the strategy declared the intention for integration into EU and NATO. Although becoming a part of the European integration was one of the most important declared priorities of Slovak government, the actual outcome was in the beginning quite the opposite.

There were two major issues inherited from the Soviet period that have troubled mutual Slovak-Ukrainian trade and economic relations. The construction of a metallurgic complex in Ukraine (Kriviy Rih – Dolinska, thereafter KŤUK) was initiated by the governments of countries associated in former COMECON. Liabilities arising from contractual relations were not met since 1992, when construction was interrupted by all parties involved, resulting in a long lasting and complicated series of negotiations regarding the method of settlement of mutual rights and obligations of unfinished KŤUK construction.

Much more important was another problem of Slovak-Ukrainian relations, which is not just a legacy of the Eastern bloc past in terms of its political importance, but it is rather a product of last decades, affecting the “living interests” of both actors. This conflict has stemmed from the different positions of Ukraine and Slovakia on the issue of the transit of Russian energy raw materials through Ukrainian and Slovak territories to Europe (Duleba, 2005).

The Slovak attitude toward Ukraine during 1993 – 1998 might be characterized like an “indifferent neighbourhood”. In fact, the then Slovak government led by PM Vladimír Mečiar were viewing Ukraine rather as a “gate to Russia”, than a partner worthy of attention for itself as they were performing an unbalanced eastern policy preferring one-sided relations with Moscow. The then priorities of Slovak foreign policy toward its Eastern neighbours and beyond are clearly illustrated by the intensity and weight of mutual agenda. From gaining independence in January 1993 till 1998 Slovakia has concluded more than 90 new agreements with the Russian Federation. At the same time, it has concluded around 40 agreements with Ukraine. The principal treaties signed on the intergovernmental level that regulated Slovak-Ukrainian economic and trade cooperation in the aforementioned period were: Agreement on trade, economic, scientific and technical cooperation (signed on 26th of August 1993), Agreement on support and reciprocal protection of investment (22nd of June 1994), Treaty on cooperation and mutual aid in the field of customs issues (15th of June 1995), Agreement on principles of cooperation and conditions of mutual relations in the field of transport (15th of June 1995), Treaty on border regime, cooperation and mutual aid in the border-related issues (14th of October 1995), Treaty on preventing double taxation and tax evasion in field of income-tax and property-tax (23rd of January 1996), Agreement on reciprocal employment of citizens (7th of March 1997), Agreement on protection of classified information (1st of June 1998).



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In contrast to the period of Vladimír Mečiar's government, the Mikuláš Dzurinda's government elected in 1998 began to actively encourage the shift of foreign trade in an effort to improve Slovakia's chances for entry into the European Union. Trading patterns since then show increased volume in trade with the European Union and the United States and decreased volume with other eastern European countries and the former Soviet Union. As one result of this shift, trade with Ukraine should have been in decline during the Slovakia's pre-accession period. Thus the history of mutual trade between Slovakia and Ukraine has its own story. While Ukrainian trade with Hungary, Poland and Russia has been increasing in the course of 1993-1995, Slovak-Ukrainian trade has been stagnating. The values of Slovak-Ukrainian trade according to the Slovak statistics were, as follows: \$ 273 million in 1993; \$ 240 million in 1994; and \$ 310 million in 1995. The announced massive increase in trade dynamics forecasted by both then prime ministers of Ukraine and Slovakia after the governmental meeting in Štrbské Pleso (High Tatras in Slovakia) came not to be a reality and reached the sum of \$ 418 million in 1996. Another meeting of the governmental delegations took place in Uzhgorod in March 1997. Both sides focused first of all on problems associated with a mode of payment, which they identified as the biggest obstacle for developing bilateral trade. Almost 25% of Slovak exports to Ukraine and 33% of Ukrainian exports to Slovakia at that time has been realized via barter exchange. In Uzhgorod, both sides concluded seven bilateral intergovernmental and inter-ministerial agreements, e.g. agreement on mode of payments in bilateral trade, reciprocal employment of citizens, transport cooperation, etc. Among others, both sides signed also the "Memorandum on steps leading towards liberalization of bilateral trade", in which Slovakia declared its support of Ukraine concerning Ukraine's accession to WTO and CEFTA (Duleba et al., 2017).

Whereas under the Mečiar rule Ukraine has been overshadowed on the foreign policy map of Slovakia by Russia, at the beginning of Dzurinda governance it was in a shadow of the West in the course of 1998 – 2002. The Slovak-Ukrainian trade turnover topped at the level of \$ 520.7 million in 1997, while in the next two years a significant decline in mutual trade dynamics has been caused by the impact of the Russian financial crisis. Starting from 2000, the Slovak-Ukrainian trade exchange shows a slight growth, corresponding to the slow recovery of Ukrainian economy and the changing character of the legal and institutional framework for mutual trade. The Slovak-Ukrainian treaties including the bilateral legal arrangements in the field of trade and economic cooperation signed in the course of 2000 – 2003 corresponded to the EU acquis which Slovakia was obliged to follow in its relations with the third countries, while the bilateral legal documents signed before 2000 had to be revised and consequently adjusted to the EU acquis (Benč et al., 2006).

Table 1 History of Slovak-Ukrainian mutual trade in 1993 – 2003 (\$ million)

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Import	142.4	121	188.7	241.3	250.7	181.2	144.8	189	194.1	186.9	233.5
Export	130.9	119.1	121.7	177	270	229.2	136.2	147.1	145.5	155.8	221.7



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Turnover	273.3	240.1	310.4	418.3	520.7	410.4	281	336.1	339.6	342.7	455.2
Balance	-11.5	-1.9	-67	-64.3	19.3	48	-8.6	-41.9	-48.6	-31.1	-11.8

Source of data: Ministry of Economy of the Slovak Republic

It should be noted that the Slovak and Ukrainian statistical data on bilateral trade differ significantly in this period, especially when it comes to the Ukrainian exports to Slovakia. As to the Ukrainian statistics, the bilateral trade turnover for 9 months of the year of 2002 in comparison with the equal period of 2001 grew out with 9,1% and presented the sum of \$316.6 million, exports to Slovakia went up by 16,2% (\$219.6 million) and imports from Slovakia declined with 4.2% (\$97.1 million). On the other side, the following are Slovak data for the same period: the total turnover dropped by 3.2% presenting the sum of \$245.0 million, Slovak imports from Ukraine declined by 12.0% (\$133.9 million) and exports to Ukraine grew out with 7.3% and reached the sum of \$111.6 million. As to the Ukrainian statistics, the passive trade balance of Slovakia in bilateral trade was \$122.5 million while according to the Slovak evidence – \$22.0 million for the same period. According to the representatives of the Slovak Ministry of Economy, the statistical evidence on bilateral trade differs not much in the case of Ukrainian imports from Slovakia, but quite significantly in respect of Ukrainian exports following the fact that Ukrainian statistics does register some exports to the Czech Republic as exports to Slovakia, because the customs union between Slovakia and the CR, in fact those exports only transited the Slovak territory.

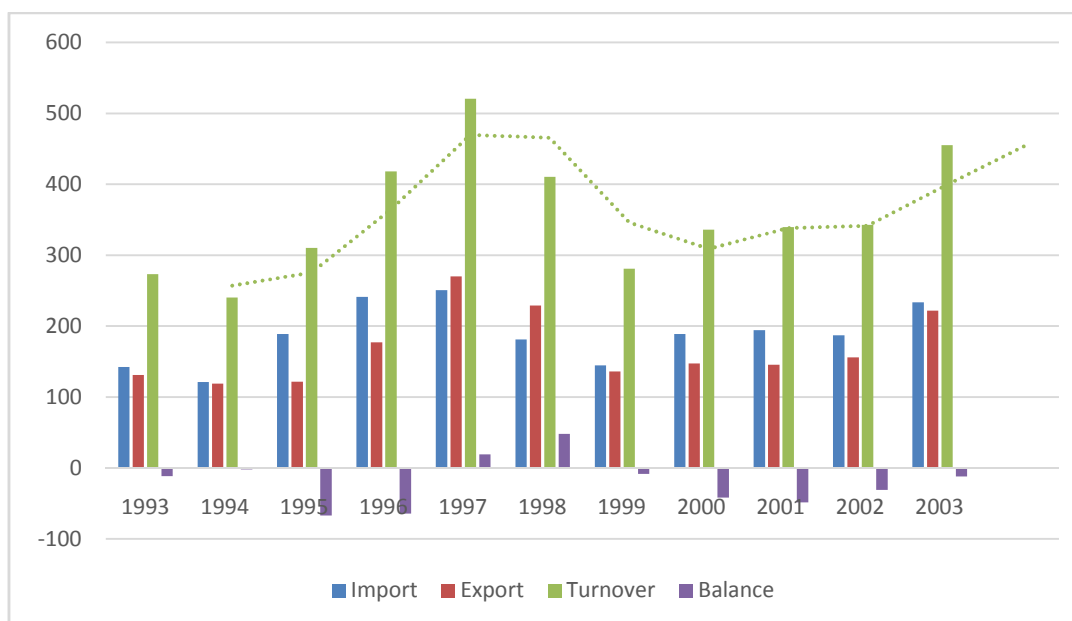


Fig. 1: Dynamics of mutual trade SR - UA in 1993 - 2003 (\$ million)

Source of data: Ministry of Economy of the Slovak Republic



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3. Economic interaction after Slovakia's EU accession

In the wake of Slovakia's EU accession in May 2004 and the rapid growth of both Ukrainian and Slovak economies, we can consider a dynamic upward trend in mutual trade in 2004-2008, especially when it comes to the volume of Slovak export to Ukraine, which has almost tripled within this short period. This scenario did not fully repeat after the crisis, where we can see higher volumes of imports from Ukraine than ever before, but the amount of Slovakia's export has not reached the level from 2007-2008. The significant impact of Russian-Ukrainian conflict on foreign trade is apparent since 2014 also in case of the Ukraine's mutual trade with Slovakia.

Ukraine has been a member of the WTO since May 2008. Prior to the DCFTA introduction more than 70% of Ukrainian exports to the EU (engineering products, vegetable products, oils, metals, chemical industry products, textiles) benefited from reference tariffs within the Generalised System of Preferences (Benč – Mytryaeva, 2011). The AA/DCFTA aims to boost trade in goods and services between the EU and Ukraine by gradually cutting tariffs and bringing Ukraine's rules in line with the EU's in certain industrial sectors and agricultural products. Ukraine has committed to adapt norms and standards relating to market competition, government procurement, trade facilitation, intellectual property protection, investment and transport. Due to Ukraine's production potential, the DCFTA constitutes a great opportunity to enhance the competitiveness and modernization of the Ukrainian economy and the diversification of the Ukrainian exports. Small and medium sized enterprises (SME) in Ukraine can receive support from the EU's SME Flagship Initiative, which allows SMEs in Ukraine, Georgia and Moldova to access approximately € 200 million of EU grants. This funding adds to the new trade opportunities with the EU, including Slovak market, that have been created by DCFTA. Nevertheless, despite the DCFTA implementation from January 1st, 2016, the preliminary data from 2016 do not show any dramatic turn of trends in mutual Slovak-Ukrainian trade volumes so far. The reasons include that the DCFTA implementation has found Ukraine underprepared when it comes to the necessary changes in legislation and institutional framework. On the other hand, the current lower performance of Ukrainian economy still results from an economic downturn caused by the Russian-Ukrainian conflict.

Table 2 History of Slovak-Ukrainian mutual trade in 2004 – 2016 (€ million)

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Import	340.3	417.6	500.2	448.4	524.2	250.7	445.5	607.8	593.4	622.5	555.8	469.1	406.2
Export	245.4	317.3	464.7	571.8	691.7	291.8	368.8	471.9	442	479	326	312.5	336.4
Turnover	585.7	734.9	964.9	1020.2	1215.9	542.5	814.3	1079.7	1035.4	1101.5	881.8	781.6	742.6
Balance	-94.9	-100.3	-35.5	123.4	167.5	41.1	-76.7	-135.9	-151.4	-143.5	-229.8	-156.6	-69.8

Source of data: Statistical Office of the Slovak Republic



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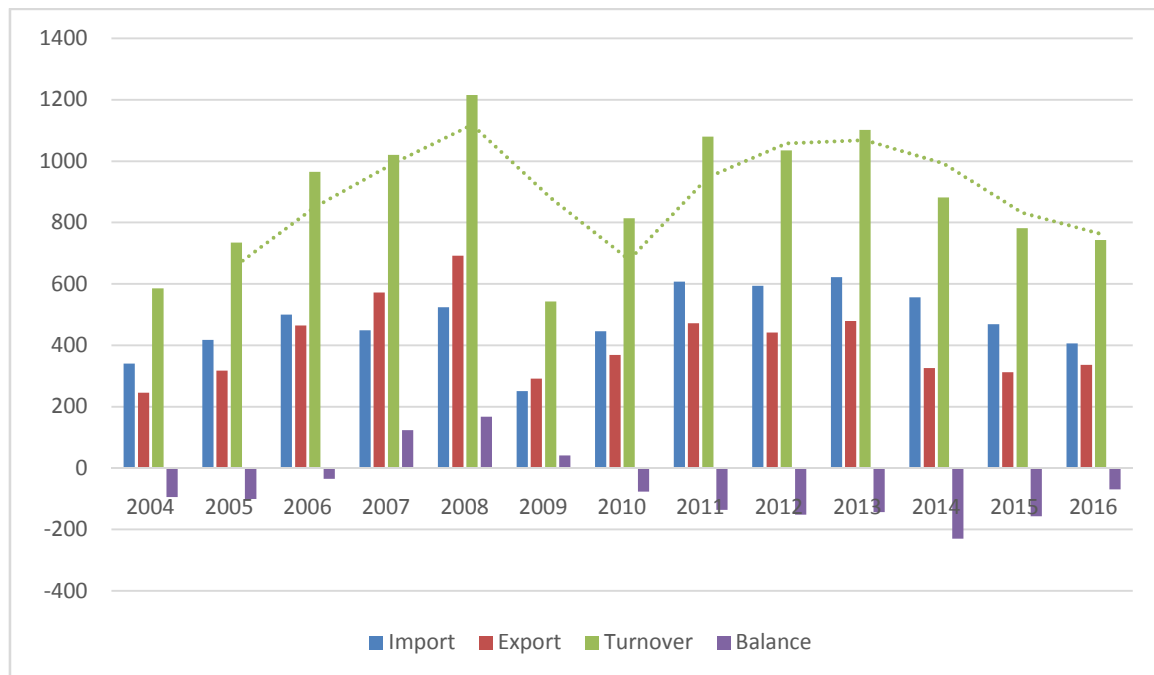


Fig. 2: Dynamics of mutual trade SR - UA in 2004 – 2016 (€ million)

Source of data: Statistical Office of the Slovak Republic

It should be noted that in the long run the share of Slovak mutual trade with Ukraine on the country's total foreign trade turnover moves around 1% and more or less the same we can say vice versa as we look at the Ukrainian foreign trade statistics. In general, the abovementioned figures show that the current state of affairs in the bilateral Slovak-Ukrainian trade does not consist with their foreign trade potential and first of all with the fact of their geographical proximity. Neither the projected trends of Slovak foreign trade until 2020 do not mention Ukraine among the top ten trade partners of Slovakia, though Czech Republic, Poland, Austria and Hungary rank in top ten both in case of predicted import and export of Slovakia (Ministry of Economy of the Slovak Republic, 2016).

One of the important characteristics of the trade between Slovakia and Ukraine is the long lasting commodity concentration of Ukrainian exports to Slovakia, where vast majority of trade volume is represented by supplies of raw materials and blanks for further processing in the Slovak Republic (as in 2015: iron ores and concentrates – 34.12%; wires and cables – 13.70%; flat-rolled products of iron or non-alloy steel – 9.25%; black coal – 8.21%; petroleum gases and other gaseous hydrocarbons – 4.78%; ferroalloys – 3.03%; raw aluminium – 1.81%). Ukraine has traditionally exported to Slovakia mainly raw materials, mineral fuels and lubricants, industrial products, machinery and transport equipment. We can assume that the export of Ukraine to Slovakia is in its sectoral cross-section considerably close to the overall structure of Ukraine's export to the EU (Statistical Office of the Slovak Republic).

When it comes to the ratio of the gross value added, there is a different situation regarding the commodity structure of Slovakia's exports to Ukraine, which is recently dominated by machinery and



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transport equipment, industrial products, chemicals and raw materials (the most important export items in 2015 were: flat-rolled products of iron or non-alloy steel – 11.3%; magnesite – 8.44%; cars and other motor vehicles – 6.31%; polymers of propylene or other olefins – 6.28%; uncoated paper and paperboard – 5.1%; telecommunications equipment – 3.57%, limestone and other calcareous stones – 2.09%; washing machines – 1.79 %; central heating boilers – 1.77%; etc.). The less significant share of Slovak exports to Ukraine is represented by mineral fuels and lubricants, food and live animals. The shift toward the strengthening of the technological components of Slovak exports occurred in 2007 – 2008 in connection with the launch of production in several industrial branches after the FDI arrival (Deák et al., 2016). Within this period, we can consider a significant increase of the share of machinery and transport vehicles on Slovak exports to Ukraine. The dynamic growth in exports of engineering production to Ukraine was later dampened by the symptoms of economic crisis, which in 2009 caused a fall in incomes and demand in the Ukrainian market and a decline in the Slovak industrial production. All things considered, the impact of the economic crisis on the development of the Slovak-Ukrainian trade was mainly of a financial and not of a structural nature, which is being confirmed by no dramatic changes in the commodity structure of mutual trade in the recent years.

Penetration of Slovak companies on the Ukrainian market is at present important not only due to the size of the market, its relative unsaturation, geographical and linguistic proximity, but also with respect to the expected future consolidation of this market, the prospect of Ukraine's European integration, and finally due to the gradual occupation of the Ukrainian market by domestic and foreign companies. Ukrainian market represents a considerable potential for Slovak companies, while the taking of full advantage depends on the implementation of economic reforms by the Ukrainian government, the pace of standardization of the business and investment environment, as well as the progress of European integration. The prospective areas of mutual Slovak-Ukrainian cooperation include: energetics (reconstruction of power supply systems, improvement of energy efficiency, and use of alternative energy sources), infrastructure, agro-food sector (processing of agricultural products), area of ecology, machine industry, metallurgy, chemical industry and tourism.

Since 1990s, the Ukrainians represent a significant clientele for the Slovak spa facilities, as well as for winter holidays in Slovak ski resorts. Apart of minor changes, in the long run there is no high dynamics in tourism between Ukraine and Slovakia. Recently, in 2016, 52,850 Ukrainian visitors arrived to Slovakia (102.6% compared to 2015), which have spent 173,228 overnight stays (108.5% compared to 2015). Ukrainian visitors spent on average 3.3 nights, i.e. 0.2 nights more than in 2015. This slight increase of Ukrainian tourists in Slovakia ranked the country's position in Slovakia's foreign traffic in 2016 to seventh place. Nevertheless, the share of Ukraine in the foreign traffic in Slovakia has shrunk from 2.9% in 2015 to 2.6% in 2016 (Statistical Office of the Slovak Republic, 2017).

As stated in the official analysis outcomes (Ministry of Foreign and European Affairs of the Slovak Republic, 2016), the most serious obstacles of doing business in Ukraine are the still existing large gaps in Ukrainian legislation, as well as the fact that, in the long run, the legislation is awkward to adapt the standard international conditions. The entrepreneurs coming to Ukraine complain about problems with VAT refunds from the state, persistent high level of corruption and frequent violation of negotiated contracts. The specifics of Ukrainian market are associated also with prevailing supply over demand, low purchasing power of the population, as well as with minor and weak middle class population.



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According to the State Statistics Committee of Ukraine, Slovak companies have invested, cumulatively, in Ukraine until the 31st of December 2013 the amount of \$ 99.7 million, while until the 31st of December 2015 – \$ 73.1 million, which is surely not one of the highest FDI inflows to the Ukrainian economy. Nevertheless, the amount of Slovak investment is higher, respectively comparable to the FDI coming e.g. from Spain, Belgium, Ireland and Czech Republic. Despite the hindrances, Ukraine is nowadays becoming an interesting investment destination for Slovak entities, in several respects: the devaluation of the Ukrainian hryvnia against the euro, relatively high cost of domestic capital, significant investment demand in Ukraine, the efforts of the new Ukrainian government to improve the investment and business climate, as well as Ukraine's cooperation with international financial institutions.

A different story is that of the Ukrainian direct investment in Slovakia. According to the Slovak National Bank, the Ukrainian FDI in Slovakia have amounted to minus € 5,638 million (represented by the debt instruments) until the 31st of December 2014, thus the figure does not reflect the reality perfectly, since the Ukrainian companies can invest in Slovakia through their subsidiaries abroad or in the Slovak Republic.

4. Economic interaction in the Slovak – Ukrainian CBC Area

Regional economies of border regions on both sides of the Schengen border function as specific parts of national economies in the context of their internal links into the national economy and specific external linkages to international surroundings – especially the geographically close environment. Functional diversity of regional economies within the national economy causes that various regions not to have the same needs and priorities and not to respond to external stimuli in the same way (Varadzin, 2005). In the case of border regions of Ukraine and the neighbouring EU countries, we can typically consider as regions having the character of peripherals, which are not the most important centres of economic activity. Their development potential depends largely on the nature of the border and the conditions for mutual trade and cross-border cooperation (Liikanen – Scott – Sotkasiira, 2016).

According to the Regional Economic Performance Index (REPI) ranking, measuring the performance level of NUTS-2 EU border regions, there are significant differences when it comes to the border regions of Zakarpattya and Eastern Slovakia. This composite index is built with the variables listed in dimensions, appropriate to measure the economic strengths and potential of a region. Crucial importance in terms of economic potential and international competitiveness have the factors including regional economic assets (labour availability and skills, capital stock and infrastructure, factor productivity, living conditions), significant impact on the development potential of regions however show also the intangible factors such as proximity to universities, access to health care, the length of time required to start a business, the perception of corruption, factors of personal safety and the safety of transport, etc. In the recent Regional Economic Performance Index benchmarking analysis, the NUTS-2 region of Eastern Slovakia ranked at the 49th position, which is a result approximate to the neighbouring Polish region Podkarpackie at the 53rd, as well as the neighbouring Hungarian region Northern Great Plain at 48th position, while there is a much different situation in the neighbouring Ukrainian Zakarpattya region which ranked at the 119th position, Ivano-Frankivsk at the 107th and the Lviv region at the 98th position (Grozea-Helmenstein – Berrer, 2015, pp. 48-51).

The subsequent cluster analysis revealed different regional development patterns and industrial profiles among the EU and the non-EU border regions, which have been classified in nine different clusters.



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In the case of Zakarpattya and Eastern Slovakia it pointed at different prospective of regional development. A total of 13 indicators available at the regional level (persons aged 25-64 with upper secondary education attainment, persons aged 25-64 with tertiary education attainment, available beds in hospitals, physicians or doctors, economic activity rates, employment in industry, employment in services, fertility rate, population growth, population density, GDP per capita, growth rate of gross value added, unemployment rate) and 4 indicators available at national level (workers' remittances, total tax rate, corruption perception index, cost of business start-up procedures) have been used for clustering. Zakarpattya fell in the Cluster G (with the average REPI score of 53.33), together with other Ukrainian border regions (Volyn, Ivano-Frankivsk, Lviv, Odesa, Chernivtsi), Belarussian and Russian border regions. Based on common characteristics, the region of Eastern Slovakia is included in Cluster E (with the average REPI score of 66.0), which comprises NUTS-2 border regions belonging to the new EU member states in Central and Eastern Europe (Bulgarian, Estonian, Latvian, Lithuanian, Hungarian, Polish, Romanian, Slovenian and Croatian regions), plus the Serbian border region Pokrajina Vojvodina (Grozea-Helmenstein – Berrer, 2015, pp. 53-57).

Production branches typical for both Zakarpattya and Eastern Slovakia border regions include mainly medium and low manufacturing technology and agriculture. From their mutual proximity and connections, they can draw productive advantages and learn to build on their strengths and economic development opportunities. When compared at the level of selected partial indicators, the Eastern Slovakia and the Zakarpattya regions report approximately the same share of services on employment (both at the level cca 55%), but in case of Zakarpattya, there is a higher share of employment in agriculture (cca 20%) in comparison with the Slovak border region. Both border regions have roughly the same share of qualified workforce, though the other important difference between the two border regions consists in the rate of population growth, which is cca 2% in case of Eastern Slovakia, but cca minus 5% in case of all Ukrainian regions bordering with the EU. When it comes to the infrastructure, there is cca 100 km of roads per 100 km² of land area available in Slovakia, while this indicator reaches only a value of 20-30 on the Ukrainian side (Grozea-Helmenstein – Berrer, 2015, pp. 17-41).

Slovakia ranks among the top five export destinations for the Zakarpattya regional economy. As in 2015, the main export destinations were as follows: Hungary (48%), Germany (7.3%), Slovakia (7.2%), Austria (6%) and Poland (5.4%). Exports of goods to Slovakia in 2013-2015 consist of three product groups, share of which ranged from 89.2% to 92%, indicating a steady Slovak demand for mechanical and electrical equipment, textiles and textile goods, wood and wood products from Zakarpattya. Although the raw material and the technological potential of Slovakia in these areas is much higher than in Ukraine, the commodity structure of imports from Slovakia to Zakarpattya is dominated by supplies of mechanical and electrical equipment, mineral products, textiles and textile products, polymeric materials, plastics and articles thereof (the share of these product groups amounts to 81.2% of total imports). Slovakia achieves also the largest share on total imports of services to Zakarpattya (16.2%). Nevertheless, in case of the mutual trade in Slovak-Ukrainian CBC area we are speaking only about a fraction of mutual Slovak-Ukrainian trade turnover (Kardash – Lačný, 2017).

The conclusions may take the form of policy recommendations both for the Ukrainian, as well as for the Slovak institutions and CBC actors. In order to maximize the opportunities for boosting economic



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cooperation and trans-border regional development, as well as expanding foreign trade, they should focus on the following priorities:

- prompt and efficient implementation of necessary changes in Ukrainian legislation and institutional framework, related to the AA/DCFTA introduction (regarding market competition, government procurement, trade facilitation, intellectual property protection, investment and transport);
- optimize the insufficient legislation dealing with legal protection of business;
- resolve the inadequate institutional setup (hampering and non-transparent practices at the local public administration offices, police and courts);
- improve the management of Ukrainian-Slovakian border by speeding and streamlining border and customs control, to resolve the inefficiency of custom offices that paralyze small local businesses;
- enhance co-operation in customs and customs-related matters and simplify customs requirements and formalities, while at the same time preventing customs irregularities and fraud;
- improve the insufficient infrastructure (number of border crossings, availability and quality of transport infrastructure) on both sides of the border;
- maintain smooth cooperation with investors at every level (government, municipality, company) and assure the requisite institutional capacities;
- create an economically attractive environment for investments in border regions;
- the practical application of the OECD's corporate governance principles may serve as a tool for achieving better accountability and improved relationship with investors, spurring investments into technologically advanced assets;
- the investment incentives should be targeting both local businesses and foreign investors with a better tax system, a better educated workforce and a good transport infrastructure rather than tax holidays, duty free zones, or other political promises;
- work out joint solutions to restore and boost Slovak-Ukrainian trade turnover, including the promotion of trade and investment opportunities for local businesses in border regions and promotion of tourism;
- support and promote innovation and technological progress in the border regions;
- following the identification of a regional cluster's strengths and competitive advantages, regional policy makers may engage in developing a regional cluster strategy.

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