

Peer-reviewed academic journal

**Innovative Issues and Approaches in
Social Sciences**

IIASS – VOL. 7, NO. 2, MAY 2014

Innovative Issues and Approaches in Social Sciences

IIASS is a double blind peer review academic journal published 3 times yearly (January, May, September) covering different social sciences: political science, sociology, economy, public administration, law, management, communication science, psychology and education.

12

IIASS has started as a Sldip – Slovenian Association for Innovative Political Science journal and is now being published in the name of CEOs d.o.o. by Založba Vega (publishing house).

Typeset

This journal was typeset in 11 pt. Arial, Italic, Bold, and Bold Italic; the headlines were typeset in 14 pt. Arial, Bold

Abstracting and Indexing services

COBISS, International Political Science Abstracts, CSA Worldwide Political Science Abstracts, CSA Sociological Abstracts, PAIS International, DOAJ.

Publication Data:

CEOs d.o.o.

Innovative issues and approaches in social sciences, 2014,
vol. 7, no. 2

ISSN 1855-0541

Additional information: www.iiass.com

Editors:

Albin Panič, ret. prof. at University of Ljubljana and director of the Institute of Macroeconomic Analysis and Development of the Republic of Slovenia (Slovenia) - editor@iiaass.com

Nataša Pržulj, prof. at Imperial College London (UK) natasha@imperial.ac.uk

Warren Master – editor of The Public Manager (USA) wciwmaster@aol.com

Lasha Tchantouridze, prof. at University of Manitoba (Canada) tchantou@ms.umanitoba.ca

Editorial board:

Ph.D. Daniel Klimovský - Technical university of Košice (Slovakia) daniel.klimovski@tuke.sk

Ph.D. Michaela Batorova - University of Tampere (Finland) michaela.batorova@gmail.com

M.Sci. Aleksandra Tabaj - University Rehabilitation Institute - Republic of Slovenia (Slovenia) - aleksandra.tabaj@ir-rs.si

Ph.D. Diana Camelialancu - National School of Politics and Public Administration Bucharest (Hungary) - dcinacu@snspra.ro

Ph.Dr. Viera Žúborová - University of St. Cyril and Methodius in Trnava (Slovakia) - viera.zuborova@ucm.sk

Ph. D. Dejan Jelovac - School of Advanced Social Studies (Slovenia) - dejan.jelovac@gmail.com

Ph. D. Inez Zsófia Koller, - University of Pécs (Hungary) - koller.inez@feek.pte.hu

Ph.D. Katarzyna Radzik Maruszak - University of Marie Curie Skłodowska Lublin (Poland) - katarzyna.radzik@poczta.umcs.lublin.pl

Ph.Dr. Jaroslav Mihalik - University of St. Cyril and Methodius in Trnava (Slovakia) - jaroslav.mihalik@ucm.sk

M.A. Simon Delakorda - Institute for Electronic Participation (Slovenia) simon.delakorda@inepa.si

Ph.D. Sandra Jednak - University of Belgrade (Serbia) sandra.jednak@fon.rs

Ph.D. Piotr Sitniewski - Bialystok School of Public Administration (Poland) - psitniewski@wsap.edu.pl

Ph.D. Uroš Pinterič - Faculty of Social Sciences, University of SS. Cyril and Methodius Trnava (Slovakia) uros.pinteric@gmail.com

Ph.D. Aleksandar Marković - University of Belgrade (Serbia) aca@fon.rs

Language editor: M.A.Tanja Kovačič



HOW IS THIS PUBLICATION EXPANDING ITS REACH?

By joining the leader in scholarly, authoritative content. This and other titles are available from ProQuest via subscription-based electronic research databases.

ProQuest offers a wide range of powerful research tools to help you find, get, and use information quickly. For a complete list of ProQuest products, go to www.proquest.com or visit your local library.

The Public Manager

The Public Manager
a source
of practical,
implementable
solutions for
public-service
practitioners.

**Stay informed.
Get involved.
Lead through service.**



Contents

THE ROLE OF TIPPING IN REDUCING LABOUR COSTS: CASE OF SECTOR RETAIL PETROLEUM PRODUCTS	16
<i>Andrej Raspor, Gozdana Miglič, Goran Vukovič, Blaž Rodič</i>	8
ADJUSTMENT DURING THE CRISIS: INSTITUTIONAL BUFFERS ON THE EASTERN EUROPEAN LABOUR MARKETS	
<i>Pavol Babos</i>	30
CREATIVITY AND INNOVATIVENESS IN PUBLIC SECTOR	
<i>Anamarija Kežar, Franc Vidic</i>	52
WHY CORRUPTION MAY HAPPEN?: A CLASSROOM ACTION RESEARCH	
<i>Anita Maharani</i>	67
ANALYSIS OF INFLUENCES ON BUYER-SUPPLIER NEGOTIATION	
<i>Božidar Lenarčič, Franc Brčar</i>	81
MEDIA CONCERN AND TRENDS OF FERTILITY IN BANGLADESH	
<i>Mohammad Morad</i>	99

**PROCEDURES OF PLACING CHILDREN WITH SPECIAL
NEEDS IN PRESCHOOL PROGRAMMES IN SLOVENIA**

Erna Žgur

113

| 7

**BIOLOGY STUDENTS' TEACHER OPINIONS ABOUT THE
INTEGRATION OF ICT INTO THE LEARNING AND TEACHING
PROCESS**

Andreja Špernjak

121

**THE PROPOSED METHODOLOGIES FOR THE SIX SIGMA
METHOD AND TQM STRATEGY AS WELL AS THEIR
APPLICATION IN PRACTICE IN MACEDONIA**

*Elizabeta Mitreva, Nako Taskov, Sonja Rizovska
Jovanovska*

135

THE ROLE OF TIPPING IN REDUCING LABOUR COSTS: CASE OF SECTOR RETAIL PETROLEUM PRODUCTS

Andrej Raspor¹, Gozdana Miglič², Goran Vukovič³, Blaž Rodič⁴

Abstract

The purpose of this paper was to determine whether tipping could reduce labour costs in the petroleum products retail sector. The research we present was designed on the basis of survey results gathered from Slovenian petrol stations in 2009 and 2010. We have identified the following factors in the tipping process: job satisfaction, flexibility, service quality, satisfaction, motivation and the factor of receiving tips. The analysis showed correlation between methods used to increase the value of tips and better service quality, increased financial and numerical flexibility, motivation, satisfaction upon receipt of tips and the method used to increase the value of tips. In order to decrease labour costs we propose that the management take control of tipping and integrates tips into the reward system. Also, the employees should be made aware about how tipping improves service and increases their income.

Keywords: tipping, flexibility, motivation, reward system, sales

DOI: <http://dx.doi.org/10.12959/issn.1855-0541.IIASS-2014-no2-art01>

Introduction

In previous research (Azar, 2007; Lynn, 2004; Raspor, 2010), it was found that tipping is an interesting area of research from several fields. The first is the customer (the consumer) – the tipper, the second is the employee – the tipped, the third is the employer – the one who pays the monthly salary or is even responsible for the pooled tips. The last is the national legal system (e.g. legislatures, employers, social partners) –

1 Andrej Raspor is an assistant professor on School of Advanced Social Studies and DOBA Faculty (andrej.raspor (at) siol.net)

2 Dr. Gozdana Miglič University of Maribor, Faculty of Organizational Sciences (gozdana.miglic (at) fov.uni-mb.si)

3 Goran Vukovič University of Maribor, Faculty of Organizational Sciences (goran.vukovic (at) fov.uni-mb.si)

4 Blaž Rodič School of Advanced Social Studies (blaz.rodic (at) fis.unm.si)

those who decide and influence the legal basis for the taxation of tips, in other words passing the laws for the collection and dividing of tips.

The work of petroleum product retailers is mainly limited to the sale of fuels and other goods. Occasionally, they also solve a driver's problem or a problem of their passenger. In this case, the customer often wants to pay back the retailer and one of the common ways to do this is to tip. Individual authors (Lynn, 2004; Parrett, 2003; Raspor, 2010) found that tips are on one hand a consequence of the relationship between employees (in our case retailers) and their services, and on the other hand a consequence of the relationship between customers or consumers and tipping.

Theoretical Framework

Motivation

George and Jones (2008: 181) discovered that there are at least 140 different definitions of motivation. DuBrin (1984: 105) wrote, that motivation generally has two meanings. The first viewpoint is to see it as a management activity. The second viewpoint concerns the internal situation and effort, which leads and directs individuals towards their objectives, so as to encourage a clear way of behaviour. Sang (2003: 9) defined motivation as a force, which creates behaviour, with which we satisfy a need. A well motivated person is someone who has clear goals and who takes full responsibility in reaching their objective (Armstrong, 2006). In short, it is the readiness to put in a high level of effort, in order to achieve the objectives of the organization while also satisfying personal needs (Robbins and Coulter, 2009). Motivation refers to the input of energy to meet specific needs (Boone and Kurtz, 1992). This energy may only be temporary, and is activated in order to achieve individual goals (Gibson et al., 2008). From a managerial point of view, motivation means preparing employees to do what is expected of them by their manager.

Making effective decisions and accepting increasing responsibility is a strength which can only be expected from people who are educated, skilled and enthusiastic towards their work (Johnson, 1999: 55). Therefore, motivational systems are also directly related to the training and awareness of employees. Depending on the type of motivation, as identified by Herzberg, (1959), Mausnerand Synderman in 1957, it can be divided into internal; what drives people from inside towards their goal, and external; what was done to motivate the people (Armstrong, 2003: 217; George and Jones 2008: 184).

The motivational process consists of need, from which arises the desire to reach a goal, activities to achieve the goal, and the goal itself. This cycle repeats itself while the needs exist. Arnold (2005: 310) describes the motivational process as a direction, where an individual wants to get to (from the need to the target), the effort they put in and their persistence (activity).

The most common motivational factors affecting individuals in an organization (Bahtijarević-Siber, 1999: 558; Lipičnik, 1998: 162) are; the differences between individuals (needs, opinions), job characteristics (different capacities, identification of tasks, task characteristics, autonomy and feedback) and work specifics (reward system, rules). On the basis of motivational factors, various scales have been developed. The work motives are defined on the scale of work motives while with the scale of work satisfaction we can measure the extent to which employees are satisfied with the individual motivator (Pogačnik, 1997: 12-33).

Tipping

Some sources (e.g. Segrave, 1998) argue that tipping already existed in ancient Rome. However, the most widespread opinion is that this became a social custom in England in the 16th century. The most common phrase for a tip in the English language is "tip the waiter" (i.e. give the waiter a tip - gift in cash). In some areas, they use another term, ie. "Drink money" (Lobb, 2001). The common theme of all definitions is that a tip is a small amount of money, which is paid in respect to someone one who has provided good service (Fullen, 2005: 10) and take into consideration that this does not require any purchase of services (Casey, 2008: 2). However, Raspor (2002) defined a tip as »a gift for above standard services«. In the case of retailers we must point out that there is an emphasis on service which is beyond standard service. They receive tips because they do something which is not necessarily a part of their everyday work i.e. selling (e.g. petroleum products, other material), but is nonetheless desirable to the customers. The giving of a tip is not influenced by one event, but a series of activities, which can be divided into seven groups (Raspor, 2010):

- external, uncontrolled factors (culture of tipping, personal contact, superstition, empathy, duration of service, weather, race, nationality, sex of employee or customer, physical appearance and clothing accessories);
- external, controlled factors (regulated system of reporting to the tax office, the general norm that encourages tipping, legal regulations or collective agreements);

- quantity of visits and services and payment method (billed amount for services, method of payment and change given, frequency of visits, number of customers or employees at place of sale);
- interpersonal relationships between employees and the tip sharing system (interpersonal relationships, base salary, motivation of employees, coordination and cooperation of employees, division of workload between contact and support staff, tipping system, degree of formality in receiving and dividing tips, opportunity to familiarise customers about the meaning of tipping, number of employees who are involved in the tip division);
- features of the shop offer (type and quality of service, customer satisfaction with atmosphere and ambience and diversity of supply and operation of equipment);
- behaviour, experience and other personal characteristics (satisfaction of the individual which is reflected through the quality of service, professionalism, courtesy, appearance, speed of service, radiation of satisfaction, entertaining of customers, general knowledge, non-verbal communication, consulting services, knowledge of rules, problem solving, introducing employees by name, repeating orders for the customer, eye and physical contact with the customer);
- surprising customers (to offer more than your competition for the same price, happiness which shows the employee the customer's satisfaction, above standard service, and attention which the employee gave the customer).

Although the origins of this model derived from the gaming industry (Raspor, 2002), it can also be used in other areas of service activity, where the tip is more common such as in hospitality, hairdressers, and petroleum product retail. That does not necessarily mean that each individual factor in every activity will be as equally important.

Service quality

The influence of tipping on the petroleum product retail service quality has not yet been fully researched. This is not typical only for Slovenia, but also for other countries. High quality products that are marketed in retail and wholesale networks are central especially in the future of quality service offered to customers by employees, companies, partners, managers and their employees. Since we are looking for links with other service industries, we will hereafter refer primarily to studies that have been carried out in the hospitality industry.

The field of quality has been studied by various authors. Gronroos (1984) in the Nordic model identified two dimensions of service quality (technical quality and functional quality). The American model of Parasuraman et al. (1985) made the model of service quality measurement (SERVQUAL model). They try to cover the weakness of the Nordic model by offering a new way for measuring service quality with 10 dimensions (reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding/knowing the customer and tangibles). In 1988 Parasuraman et al. suggest to use the gap or difference between expected level of service and delivered level of service for measuring service quality perception with five dimensions: Reliability, Responsiveness, Assurances, Empathy, and Tangibility. Dabholkar et al. (1996) proposed the Multilevel model for service quality. They suggest changing the structure of service quality models to a three-stage model: Overall perceptions of service quality, Primary dimensions, and Subdimensions.

Brady and Cronin (2001), Improved SERVQUAL and describe the Hierarchical model. Service quality has three primary level dimensions in this conceptualization such as interaction, environment and outcome with three sub dimensions for each one: Interaction (Attitude – Behavior – Expertise), Environment (Ambient Conditions – Design – Social Factors), and Outcome (Waiting Time – Tangibles – Valence).

If we understand the quality as the amount of service features, with which we satisfy a particular need, we can define service quality as compliance with the expectations of customers (Raspor, 2007). Brezovec (2000:127) notes that disappointed customers shared their experience on average with eleven people, whereas satisfied customers shared on average with 3 or 4. From a business perspective, the issue of service quality and performance is faced by the business world and industry, which is capital-and labour-intensive. A company can only achieve quality if it is completely committed to the philosophy of quality. In practice this means that the company has to have already incorporated elements of quality in the vision of its development and also financially support the progress of the quality of their services (Potočnik, 2004).

Obviously there is a difference between assessing the quality of a service and that of a product. This raises the question on what quality actually is, and what a quality product or a service is. Fenich (in Barrows and Bosselman, 1999: 67) argues that it is not only the characteristics that define what is good or bad, or worthy of praise or criticism, but also the degree of perfection and superiority, which, as Moutinho said

(2000:69) show the irreplaceability of products/services. If we look at the quality in terms of products or services, one could argue that this is based on tangible and intangible characteristics. Sales management is becoming a key area of activity for each sales manager and assistant (Vukovič and Završnik, 2007). Quality is also an expense, which in companies who have a highly developed system of quality, accounts for about 2% of the income, however in companies with badly developed systems it represents 20% of the total income (Maylor quoting Crosby in Moutinho, 2000: 245). The globalisation of business and ever increasing competition on the global market demands that sales managers make fast and correct business decisions. To do this, they must have the appropriate knowledge and skills in the field of sales operations (Vukovič and Završnik, 2007).

The questions are, how does service quality influences the level of tips, and can the tips further motivate employees to perform higher quality services. There have been several major studies carried out on this topic (Azar, 2007, Lynn, 2004; Parett, 2003; Raspor, 2010), the synthesis of their findings is that there is a link, although in some cases weak, between service quality and tipping.

Flexibility of work

Atkinson (1984) designed a well-known model of flexibility of work, which argues that companies seek three forms of flexibility:

- functional flexibility: employees implement different functions and tasks within the organisation and are multi-skilled; this type of flexibility serves the interest of the employees and employers;
- numerical flexibility: adjustment of the number of employees in correlation with the actual needs at any given moment; in this type of flexibility there are contractual employment and flexible work shifts;
- financial flexibility: adjustment to expenses, integration of labour costs with effects, different reward schemes, sharing profits etc.

Experience from the USA (Raspor, 2009), where the reward system is also based on the employees' income from tips, shows that tipping directly influences numerical flexibility. That is, because of tipping, there are fewer contracted workers because existing employees are willing to work harder. This helps the employers better utilise human resources and decrease absenteeism.

Employees are eligible for statutory minimal wage (Burbank, 2000), with the result that companies strive for the optimal number of employees, however the tips often far outweigh the basic salary. In fact, imagine that

the tips represent so much of the income that basic salary becomes negligible and we would be able to work without guaranteed wages (Lucas, 2004: 131). Tipping also has an indirect effect on financial flexibility because »workers for tips« have a lower basic salary plus a variable pay from tips (Wessels, 1997). Employers generally hire fewer employees, while »workers for tips« make labour costs per employee smaller. As with hospitality, where an increase in sales increases tips, it is also shown in the gaming industry that accelerating the game increases the chance of receiving higher tips (Sallaz, 2002: 408). Indirectly with the acquisition of additional skills employees improve their functional flexibility, because tip workers require specific knowledge and skills to satisfy the customers' needs and get tipped (Lynn, 2004).

The predictions that average productivity will rise, the firm will attract a more able workforce, and variance in output across individuals at the firm will rise when it shifts to piece rates (Lazear, 2002). Bandiera (Bandiera *at al.*, 2004) find that for the average worker, productivity is at least 50% higher under piece rates. They show this is due to workers partially internalizing the negative externality their effort imposes on others under the relative incentive scheme and that workers internalize this externality to a greater extent when they work alongside their close friends.

Raspor (2009) found that in the Slovenian gaming industry tipping can increase flexibility, and that this source is currently untapped. The author is of the opinion that unions, employers and employer representatives have to take a more active approach to raise awareness on how influential the amount of tips can be, and in this way they would increase functional flexibility. Once employees would have a higher income of tips, this would increase financial flexibility. Consequently, this would influence numerical flexibility, since employers would be able to reward employees according to tips received, which increases at times of higher demand for services and higher number of customers. Such an approach to scheduling based not only on attendance payment but also on measurable results and a higher income from tips could help improve company performance and job security. This is basically enforcing the philosophy of safe flexibility.

Reward and Principal-Agent-Theory

Agency theory comes from the separation of ownership and control. Theory can be seen from two perspectives (Bartol and Locke, 2000: 119): (1) managers are agents, and owners are principal, or (2) employees are the agent and managers are principal. Conflicts of interest issues that arise when a principal hires an agent to perform

specific duties that are in the best interest of the principal but may be costly, or not in the best interests of the agent. Agency relationship should be encouraged to make principal and agent pursuing the same goals. Thus, the manager looked at the long-term business, not only through its own revenue optimization. The owner sees his long-term ownership and therefore it is employee satisfaction increased interest. Principal therefore trying to encourage an agent to act in accordance with its interests. Wessels has specifically addressed the aspect of agency theory for the tips (hotels and restaurants) and came to the conclusion (Wessels, 1997: 336), that with the proper incentive to create tips Manager optimizes expenditure owners. This is achieved in this way that workers have a lower base salary and receive the remainder of the salary (variable part) from the tips. Since the purpose of employees receive the highest possible tip, this results in a small number of staff, as the tip is divided into a small number of beneficiaries. On this account the loss of part quality services. If opting for the more employees would have to increase the basic salary, because otherwise the employees receiving lower revenue source tip, as the tip is directly related to the amount of the account (Wessels, 1997: 346). All of the above shows (Raspor, 2010) that tips are an important tool for establishing an agency relationship and play a far more important role in the case of dealers—who have a regulated system for collecting and dividing tips—than in the case of waiters.

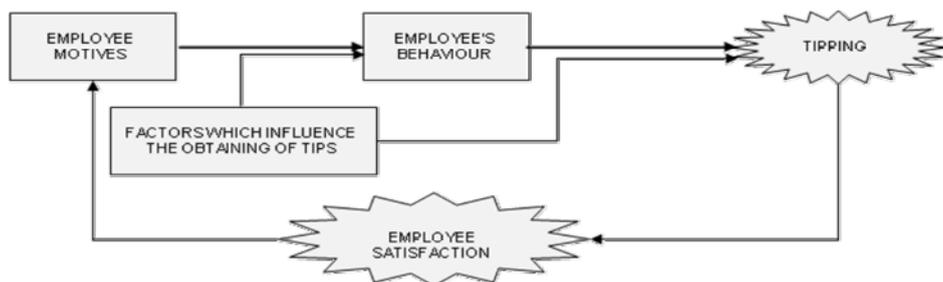
We can conclude that the tip is very effective tool to control the work of employees (Kwortnik, 2005 *at all.*).

The process of generating tips in petroleum product retail

For our research, it is interesting to look at the relationship between employees (sales assistants) and service on one side, and customers (consumers) and tips on the other. There is a degree of correlation between satisfied customers and profit, as well as between satisfied customers and the amount of tips. (Raspor, 2010). Whenever a customer is satisfied with a service, they come back rather than going to the competition. This is reflected in the revenue. Similarly, experience shows that satisfied customers leave tips. The positive side of this is that there is no conflict of interest between employees, management and owners (Raspor, 2007). Moreover, the profit is in the interest of the owner. If the customer tips a staff member, staff is less likely to make requests for higher wages. Figure 1 shows that in the general model, apart from employee motives and behaviour, tips are influenced by other factors that can have an effect on the employee or on the tip. In fact, this cycle is similar to the motivational cycle.

The basic condition for getting tips are motivated employees and their enthusiasm, creativity, experience and skills, their abilities to decide on what is effective and successful for the company. That is why there are companies that are more efficient and successful than others, despite the fact that they work using the same or less efficient conditions. Thus, Vukovič and Završnik (2007) pointed out that employees must know all the features of the products and services they sell, they must be creative and master communication skills. Of course they must also be highly motivated, because the sales assistant should also be satisfied with the sales procedure, not just the customer. The visuals are also important (e.g. clothing, hairstyle, shoes, smile, mimicry, walk, appropriate gestures). Employees must constantly be invested in, so organisations are seeking solutions for their own human resources training. Workers should be trained to improve services and therefore increase their chances of receiving a tip.

Figure 1: The process of obtaining tips



Source: Raspor (2007)

There is not enough relevant data on how many tips are received in petroleum product retail in Slovenia. Ivanc (2009) states that working the pumps has always been a much sought after job, especially during the hot summer months. Interest has even increased, as students can earn from 40 to 60 EUR a day in tips. Girls can earn even more. On internet blogs, sources say that sales assistants can receive up to 100 EUR a day in tips.

Research Methodology

The main purpose of the research was to determine if there is a correlation between the amount of tips and the flexibility and quality of service, and if there is a correlation between the level of motivation at work and the amount of tips which employees receive for helping customers in a professional way (e.g. pumping petrol, changing oil and windscreen wipers, cleaning windcreens). As well as this we were also interested in:

- How often do sales assistants receive tips and how much do they receive?
- Can tips be used as one of the factors used to reform the reward system and lower the labour costs for petroleum product retailers?

To achieve the research objectives, the following methods of academic study were used: theoretical study and empirical data collection, analysis of survey data, semi-structured interviews, focus groups among employees and observing employees and customers when in the process of tipping.

Therefore, the research is based on descriptive and comparative methods to compare the level of facts, relationships, and processes, with a view to identify similarities and differences in employees. To reach a clear conclusion, we employed statistical methods as well as methods of analysis, synthesis and compilation.

Research Tools

Research was carried out in the entire territory of Slovenia, between November 2009 and March 2010. In our questionnaire we have used 17 statements in the area of work satisfaction (Pogačnik, 1997) on the Likert scale of 1 (completely unsatisfied) to 5 (very satisfied). Followed by 9 statements from the field of tipping on the scale of 1(I don't agree at all) to 5 (I completely agree). The question of how often do they receive tips (possible answers: regularly, sometimes, rarely, I don't receive tips) and the open questions to establish techniques used to receive tips. The last set was demographic data about the survey respondents (sex, age, education).

For extra clarification, we have conducted semi-structured interviews (total of 10), focus groups (in groups of 5 participants) and observations of processes between customer and employee (in total 30). These methods were used to clarify specific open questions from the employee survey. Therefore, in the semi-structured interviews the base of the questions was the survey. We have particularly searched for extra clarification on the findings from the survey. At the focus groups, we looked for extra confirmation connected with factors which influence tipping. The observation method included careful watching and listening with purpose, so that we could see the customer's and employee's reactions and verify them in practice. The timeframe was dependent on individual service and on whether the customer bought petrol or if they needed any other service.

Population and sampling research

The population included employees (table 1) from five companies that retail automotive fuels in Slovenia: Petrol, OMV, MOL, Tuš Oil and Agip were included in the employee population. The information also includes franchises. It does not include employees who work only part time through student services.

These five companies that retail petroleum products are the source of our target population in the first instance. We were of course more interested in the number of petrol stations, which constituted our target population in the second instance (442 petrol stations) and the number of employees (1,121 sales assistants), which made up our target population in the third instance. Petrol and OMV petrol stations represent the majority of our sample as they are the two biggest petrol retailers in Slovenia, with Petrol having an approximately 60% share of the market, OMV approximately 20% and others dividing the rest.

Table 1: Research Data: Salespeople of petroleum products and tipping 2009/10

Time of Survey		2009/2010				
Data gathering method		Survey by post				
Location of survey		Slovenia				
	Petrol Station			Sales Assistants		
	Sampling frame	Number of completed questionnaires	Percentage	Sampling frame	Number of completed questionnaires	Percentage
Petrol	302	59	19.5%	718	149	20.8%
OMV	107	21	19.6%	240	56	23.3%
MOL	11	10	90.9%	66	35	53.0%
Tuš Oil	17	12	70.6%	76	25	32.9%
Agip	5	2	40.0%	21	8	38.1%
Total	442	104	23.5%	1,121	273	24.4%

Source: Own survey.

It must be highlighted that the service stations we have examined are mostly not petrol stations in the strict sense but instead multi functional complexes with a wide range of offers for on the road travellers (e.g. general goods stores, foreign exchanges, restaurants, car washes, tyre shops, telephone boxes, cash machines). Sales assistants must have a wide range of skills to carry out their work.

All three samples are representative, as they included more than 25% of petrol stations and employees from the aforementioned companies. The statistical analysis and the survey data collection was carried out using the programme SPSS.

Results and findings of research

Response and demographic data from respondents

The response to surveys in the first instance (companies) is 100 %. From 442 petrol stations we covered 104 (response rate is 23.5 %) (table 1). The employee survey was completed by 273 respondents from 1,121 sales assistants (response rate is 24.4 %). The questionnaire was answered by 178 men and 95 women of different ages (from 18 to 25 years old - 82; from 26 to 30 years old – 70; from 31 to 50 years old – 103; from 51 to 65 years old - 18) and level of education (6 – primary school or less; high school – 239; higher education and above – 55).

A comparison of the data with all employee information shows the correlation of age distribution (67.4 % sampling frame and 65.2 % completed sample of men, 32.6 % sampling frame and 34.8 % completed sample of women), age (21.4 % sampling frame and 30.0 % completed sample of 18 to 25 year olds; 20.4 % sampling frame and 25.6 % completed sample of 26 to 30 year olds; 44.8 % sampling frame and 37.7 % completed sample of 31 to 50 year olds; 13.4 % sampling frame and 6.6 % completed sample of 51 to 65 year olds) and education (3.9 % sampling frame and 2.2 % completed sample of elementary school finishers or less; 91.2 % sampling frame and 87.2 % completed sample of high school leavers; 4.9 % sampling frame and in 10.3 % completed sample of higher education graduates or above).

Analysis of sales assistant satisfaction and the correlation between tipping and motivation

Firstly, we were interested in the satisfaction level in their current working situations, and how sales assistants view tipping in regards to this (table 2). We asked them to grade each of the listed work satisfaction elements, 1 being completely unsatisfied to 5 meaning very satisfied.

Table 2: Satisfaction levels with current conditions¹

	Number of respondents	Average	Standard Deviation
relationships with colleagues	273	4.20	0.891
line manager	266	3.82	0.915
continuity of employment	271	3.73	1.094
working conditions	273	3.72	0.852
interest of work	272	3.69	0.913
autonomy in the workplace	272	3.67	0.890

¹ To confirm, it needs to be more than 3.35 or 66 % of the total grade of 5.00.

job security	269	3.66	0.919
demands of work (psychological and physical)	272	3.60	0.835
reputation of work	268	3.49	0.872
creative work	270	3.37	0.886
information about company events	273	3.34	1.070
customers	272	3.34	0.931
participation in work and business	269	3.26	1.039
opportunities for professional development	270	3.22	1.018
wages and other material perks	270	3.11	0.999
promotion opportunities	272	2.89	1.079
tipping	229	2.78	1.153

Source: Own survey.

On the whole, employees are satisfied with the working conditions, 10 of the categories were rated above the average of 3.35. The most important finding is that tipping received the lowest average grade of satisfaction (Average = 2.78), which means sales assistants weren't happy with tipping. We have to look at this factor along with the category of wages, which is in 15th place (Average = 3.11) and below the limit which we previously defined for being acceptable (Average = 3.351). Therefore, we can conclude that employees are currently dissatisfied with wages and tips. We further investigated this in the semi-structured interviews and found that the general opinion was that wages and tips were both significantly higher in the past. According to the employees, with the increase of fuel prices, which we have seen in recent years, customers decide not to tip so often as they did in the past. In addition to this, the nature of the work has changed, and employees do not have much time to devote to customers (e.g. to pump petrol, clean windscreens). The nature of the work mainly involves being at the cash register, which is inside the service station. Consequently, there are fewer customers who let you pump fuel for them. The observations confirmed that at petrol stations where they have for example, student employees cleaning windows, practically every second customer decided to tip, if the employees cleaned the windows or offered other assistance.

Influence of tipping on sales assistant motivation

Furthermore, we researched how tipping effects mood of the sales assistant (table 3). Due to changes in the way they do business and the

¹ To confirm, it needs to be more than 3.35 or 66% of the total grade of 5.00.

motivation of employees, tipping received a low score (average of 2.95 claiming »Tipping motivates me to work«). This fits with Skinner's enhancement theory (1996) that the employee tries harder at work that brings results, whereas work that does not bring results is ignored. The opinion is that the tip itself is what motivates them to work with customers, at least in the moment they get the tip.

Table 3: Statements about tipping

	Number of respondents	Average	Standard Deviation
If I get a tip, I work harder and therefore produce higher quality work.	233	3.65	1.120
If I receive a tip, I am friendlier towards customers.	233	3.45	1.159
If I receive a tip, it in no way influences my work with customers.	230	3.28	1.233
When I accept a tip, I feel satisfied that my work has brought results.	231	3.85	0.989
If I receive a tip, it in no way influences my morale.	228	2.92	1.214
As well as wages and bonuses, I also receive tips, because of this I am prepared to work overtime.	228	2.33	1.246
Tips fall within financial stimulation in the workplace.	230	2.95	1.307
Because my income also includes tips, I use fewer sick leaves.	233	2.01	1.244
Tipping is my motivation for work.	233	2.95	1.327

Own survey.

What is interesting here is that sales assistants who use techniques to increase tips are more motivated by tips, than those who do not use them. Spearman's coefficient correlation ranges show a medium correlation 1, as $r = 0.291$, $p = 0.01$ (table 4).

¹ To interpret Spearman's coefficient range we used the following scale: 0–0.1- no correlation, 0.11–0.3- weak correlation, 0.31–0.6 – medium correlation, 0.61 and above – strong correlation.

Table 4: Coefficient correlation¹

	Method used to increase tipping			
	Coefficient correlation range	Statistical features (2-sided test)	Number of respondents	p
If I get a tip, I work harder and therefore produce higher quality work.	0.303	0.000	233	0.01
If I receive a tip, I am friendlier towards guests.	0.106	0.107	233	
If I receive a tip, it in no way influences my work with customers.	0.075	0.256	230	
When I accept a tip, I feel satisfied that my work has brought results.	0.205	0.002	231	0.01
If I receive a tip, it in no way influences my morale.	0.122	0.065	228	
As well as wages and bonuses, I also receive tips, because of this I am prepared to work overtime.	0.121	0.067	228	
Tips fall within financial stimulation in the workplace.	0.175	0.008	230	0.01
Because my income also includes tips, I use fewer sick leaves.	0.175	0.007	233	0.01
Tipping is my motivation for work.	0.291	0.000	233	0.01
Receiving tips	0.182	0.003	273	0.01

Source: Own survey.

Analysis of the influence of tipping on the quality of service and employee morale

We have determined that tipping does have a decided effect on service quality. (Table 3). The statements *»If I receive a tip, I am friendlier towards guests.«* (average 3.45) and *»If I get a tip, I work harder and therefore produce higher quality work.«* (average 3.65) supports this. Customers who tip are better served and better taken care of. It is interesting that employees who use techniques to increase the chances

¹ To interpret Spearman's coefficient range we used the following scale: 0–0.1- no correlation, 0.11–0.3- weak correlation, 0.31–0.6 – medium correlation, 0.61 and above – strong correlation.

of receiving a tip are more susceptible, they try harder and carry out their duties better than those who do not use the techniques. Spearman's coefficient correlation range shows medium strength relationship, as $r = 0.303$, $p = 0.01$ (table 4).

On the whole, employees perceive that tipping has a decided effect on their behaviour (average statement *»When I accept a tip, I feel satisfied that my work has brought results«* received an average of 3.85 and *»If I receive a tip it in no way influences my work with customers.«* received an average of 2.92). We see that sales assistants feel a sense of satisfaction after they have helped a customer and received a tip. The fact that tipping does not influence their mood, shows that they have a correct attitude towards work. There is still some room to better motivate the part of employees who do not see tips as motivation to do their work better. This we also tried to research with the focus groups. When we explained to the employees how they could influence tipping with certain behaviour, they showed interest in methods used to receive tips. Before this, they were not aware of the methods. Spearman's coefficient range shows weak correlation, as $r = 0.205$, $p = 0.01$ between satisfaction and methods used to receive tips (table 4). This reiterates that the sales assistants that use the techniques for receiving tips are more satisfied than those who do not.

Analysis of the influence of tipping on work flexibility

Based on the influence of tipping on work flexibility, we found that (table 3) sales assistants do not see tips as financial stimulation (statement *»Tips fall within financial stimulation in the workplace«* had an average of 2.95). There was also no noticeable effect on numerical flexibility (statement *»As well as wages and bonuses, I also receive tips, because of this I am prepared to work overtime«* average 2.33 and *»Because my income also includes tips, I use sick leave less often.«* average 2.01), which proves that accepting tips has no influence on the inclination to take additional work leave.

Spearman's coefficient correlation range shows weak correlation, as $r = 0.175$, $p = 0.01$ between those who know and use methods to incur tipping and financial and numerical flexibility (table 4). 55% of sales assistants, who are functionally flexible, know and use at least one method to incur tipping. Between methods and these employees, who accept tips there is correlation ($r = 0.182$, $p = 0.01$), which confirms that methods used to incur tips and frequency of tipping are correlated. From the interviews and focus groups, we determined that customers most often leave the change, if they pay with cash. If they pay with a card, they do not tip, or sometimes tip if sales assistants helped them with

bigger problems. Tipping is common throughout Slovenia and is more common where sales assistants have less traffic and sell fewer other products, therefore at franchises or smaller retail points they can pay more attention to customers. Given the socio-economic status of employees, they believe that the majority of customers are in the lower-middle economic class. With regards to nationality, Bosnians and Italians tip the most, Austrians and Germans tip less and Slovenians fall in the middle.

Ivanc (2009) also had this opinion, saying that Slovenians are generous tippers, more generous if a female customer is tipping a male sales assistant, especially if have they helped fixing the car.

Sales assistants do not see tips as a part of wages, but as some kind of reward. Also the amount itself is not big enough for them to regard it as motivation. The average daily tip at a self-service unit is 5.3 EUR, ie 60 EUR a month per sales assistant. That is significantly less than other sources for e.g. students who only clean windscreens (Ivanc, 2009). According to our research 24 % of sales assistants regularly receive tips, while 60 % sometimes receive tips. Using this information we can calculate that, this sector receives more than 0.9 million euros a year (84 % of 1,121 employees and around 250 students accept 5.3 EUR a day). Another important finding is that workers who receive tips are prepared to share tips with co-workers who do not directly receive tips and contribute to better services. Tips are important for employees to feel needed – it makes them feel important, improves their status relative to their colleagues and gives them motivation to work on. On the other hand, customers mostly tip as a reaction after a good service experience, and not to elicit special treatment in the future. Most customers at service are in transit, and are not likely to return to the station in the near future. Thus in the context of service stations we cannot consider tipping to be a tool to build social capital as defined in Adam and Rončević (2003).

Based on the open responses and focus groups we can conclude that employees within the retail of petroleum products can influence tipping if they use appropriate methods to incur tipping. Employees are not familiar with the management of methods to incur tips, nevertheless they already use a majority of the known methods (Raspor 2010). However, it is not the reason they receive tips, it is their attitude towards customers. Therefore, it would be advisable that sales assistants get this information before they start working. This would help to clarify the picture of additional revenue. It would also promote the profession, which is very important to provide staff with progression (Ferjan *at all.*, 2005). The fact

is that companies are becoming increasingly globalised and habits are spreading.

Summary

We wanted to highlight the relationship between tipping and work flexibility, service quality and employee motivation with this research. We would like to make employers aware that their relationships with employees and rewarding systems can improve flexibility within their company and therefore improve service, productivity and competition on the market.

We found that tipping at service station in Slovenia does not yet influence the flexibility and motivation of sales assistants. This is slightly more significant among employees who use methods to incur tips. Tipping is also not a sufficient enough motivator for sales assistants. Also in this case there is the exception of employees who use methods to incur tips. A positive finding is that tipping does affect service quality. This finding is the basis on which agencies must build relationships.

The practical value is reflected in the finding that tipping is not used enough as a tool to increase work flexibility among salespeople of petroleum products. Therefore, employees do not know enough about the opportunities offered by tipping to regulate supply and demand. We believe that employers should first be made aware of what tipping can offer. Then employees can be made aware of their potential benefits. Practice in the USA shows that »tip workers« do not demand breaks, extra holiday allowance, or shorter working hours. Moreover, they are more reluctant to take unforeseen breaks too. The more breaks they have, the less tips they get. They are also more prepared to work during busy periods (higher potential number of tippers) and are not just physically present at work. We think that employers have to motivate employees to pay more attention to customers, as it would increase customer satisfaction and the chances of receiving a tip, which would increase employee income.

The original value of this contribution is shown (1) that we are the first to research tipping within petroleum product retail, (2) it is examined in all three forms of flexibility (numerical, functional, financial) and studied in terms of (3) service quality and (4) employee motivation. However, within our own research we did not confirm every finding that we found in the cases from the USA, where tips make a much larger proportion of wages.

This research gives a new understanding to tipping as a variable part of wages, which would ease the burden on employers and would make the company more competitive. This would also increase the country's tax income. In addition, our findings can also be used by retailers in different areas. Employers would of course have to make sure that tip boxes would be placed at the cash register, where customers could leave tips for employees, who had provided an above standard service, and provide a way to record why and whom they were tipping.

Therefore, we suggest that all petrol station operators should familiarise employees with the idea that tipping increases flexibility, motivation, and service quality, which means that they will improve services and increase revenue. In any case, tipping needs to be integrated into reward systems. This method will increase the social security of sales assistants. However, modifying the wages structure to largely depend on tips could endanger the stability of employee income and their social position. As well as sharing labour costs, it will also establish control. The tax revenue will also increase. We believe that only the companies who are able to utilise human capital and know how to find other sources and methods of rewarding and motivating employees have an opportunity for faster and better development. One of the ways of rewarding is tipping, where the obligation and decision to pay is passed to the customer.

Resources

- Adam, Frane, & Rončević, Borut (2003): Social capital: recent debates and research trends. *Social Science Information*. 2003. Vol.: 42, No.: 2, pp.:155-183. DOI: 10.1177/0539018403042002001
- Armstrong, Michael (2003): A handbook of human resource management practice. London: Kogan Page. ISBN: 9780749469641
- Armstrong, Michael (2006): A handbook of personnel management practice. London: Kogan Page. ISBN: 9780749452421
- Arnold, John (2005): Work psychology: understanding human behaviour in the workplace. Harlow: Prentice Hall. ISBN: 0273655442
- Atkinson, John (1984): Manpower Strategies for Flexible Organizations, Personnel Management. August 1984. pp.: 28-31.
- Azar, Ofer H. (2007): The Social Norm of Tipping: A Review. *Journal of Applied Social Psychology*. Vol.: 37, No.: 2, pp.: 380-402. DOI: 10.1111/j.0021-9029.2007.00165.x
- Bahtijarević - Šiber, Fikreta (1999): Management ljudskih potencijala. Zagreb: Golden marketing. ISBN: 9789536168774
- Barrows, W. Clayton & Robert Bosselmann, H. (ed.). (1999): Hospitality management education. New York: The Haworth Hospitality Press. ISBN: 978-0789004413

- Bandiera, Oriana, Barankay, Iwan, & Rasul, Imran. (2004): Relative and Absolute Incentives: Evidence on Worker Productivity. CEPR Discussion Papers 4431. C.E.P.R. Discussion Papers.
- Bartol, Kathryn, M. & Edvin, Locke A. (2000): Incentives and Motivation, In: Compensation in organizations: current research and practice, ur. Rynes, Sara, & Barry, A. Gerhart. pp.: 104–150. San Francisco: Jossey-Bass. ISBN: 978-0-7879-5274-7
- Boone, Louis, E. & David, L. Kurtz (1992): Management. New York [etc.]: McGraw-Hill. ISBN: 978-0075409649
- Brady, K. Michael, & Cronin, Joseph, J. (2001): Some new thoughts on conceptualizing perceived service quality: Ahierarchical approach. Journal of Marketing. Vol.: 65, No.: 3, pp.: 34-49. DOI: <http://dx.doi.org/10.1509/jmkg.65.3.34.18334>
- Brezovec, Aleksandra (2000): Marketing v turizmu: izhodišča za razmišljanje in upravljanje. Visoka šola za turizem Portorož: Turistica. ISBN: 9789619042076
- Burbank, Jeff (2000): Health pay tops, dealers lowest, study says. Las Vegas Business Press. Vol.: 17, No.: 10.
- Casey, Brigid (2008): Tipping and Service Management. New Zealand Tourism and Hospitality Research Conference. December, pp.: 3-5. ISBN: 978-0-86476-204-7
- Dabholkar, Pratibha, A., Thorpe, Dayle, I., & Rentz, Joseph, O. (1996): A Measure of Service Quality for Retail Stores: Scale Development and Validation. Journal of the Academy of Marketing Science. No.: 24, pp.: 3-16. DOI: 10.1007/BF02893933
- DuBrin, Andrew, J. (1984): Foundations of organizational behaviour: an applied perspective. London: Prentice-Hall. ISBN: 9780133293678
- Ferjan, Marko, Vukovič, Goran, & Kern, Tomaž (2004): Influential factors of employee careers in Slovenia. Journal of Economics. Vol.: 52, No.: 1, pp.: 91-107.
- Fullen, Sharon (2005): The Complete Guide to Tips & Gratuities: A Guide for Employees Who Earn Tips & Employers Who Manage Tipped Employees and Their Accountants. Ocala: Atlantic Publishing Group Inc.. ISBN: 978-0910627382
- George, Jennifer, M. & Jones, Gareth, R. (2008): Understanding and managing organizational behaviour. Upper Saddle River: Prentice-Hall. Pearson. ISBN: 9780273753797
- Gibson, James, L., Ivancevich, John, M. & Donnelly James .H. (2008): Organizations: behavior, structure, processes. Irwin: McGraw-Hill. DOI: 10.1036/007252409X
- Grönroos, Christian (1984): A service quality model and its marketing implications. European Journal of Marketing. Vol.: 18, No.: 4, pp.: 36-44.

- Herzberg, Frederick (1959): *The motivation to work* (reprint). New York: Wiley. ISBN: 978-1560006343
- Ivanc, Staš (2009): *Napitnine od 40 do 60 evrov na dan, dekleta lahko zaslužijo še več*. Delo, 28. 7. 2009.
- Johnson, Bob (1999): *Introducing management: a development guide for new managers*. Oxford: Butterworth-Heinemann. ISBN: 9780750643856
- Kwortnik, Robert. J., Lynn, Michael & Ross, William, T. (2005): *Does a Voluntary Tipping Policy Really Improve Service? An Examination of Consumer Agency in the Cruise Industry*, Available at: http://search.ssrn.com/sol3/papers.cfm?abstract_id=779505 (28.7.2008)
- Lazear, Edward, P. (2000): *Performance Pay and Productivity*, *The American Economic Review*. Vol.: 90, No.: 5 (Dec., 2000), pp.: 1346-1361. DOI: 10.1257/aer.90.5.1346
- Lobb, Annelena (2001): *The logic and history of tipping*. Available at: <http://money.cnn.com/2001/10/07/pf/tipping/> (15.6.2009)
- Lipičnik, Bogdan (1998): *Ravnanje z ljudmi pri delu*. Ljubljana: Gospodarski vestnik. ISBN: 8670611619
- Lucas, Rosemary (2004): *Employment relations in the hospitality and tourism industries*. London: Routledge. ISBN: 978-0415297127
- Lynn, Michael (2004): *Increasing Servers' Tips: What Managers Can Do and Why They Should Do It*. *Journal of Foodservice Business Research*. Vol.: 8, No.: 4, pp.: 89–98. DOI:10.1300/J369v08n04_07
- Moutinho, Luiz (ed.) (2000): *Strategic management in tourism*. Oxon: CABI Publishing. ISBN: 978-184593588
- Parasuraman, A., Zeithaml, A. Valarie, & Berry, Leonard, L. (1985): *A Conceptual Model of Service Quality and Its Implications for Future Research*. *Journal of Marketing*. Vol.: 49, No.: 4, pp.: 10. DOI: 10.2307/1251430
- Parasuraman, A., Zeithaml, A. Valarie, & Berry, Leonard, L. (1988): *SERVQUAL: a multiple item scale for measuring customer perceptions of service quality*. *Journal of Retailing*. Vol.: 64 No.: 1, pp.: 12-37.
- Parrett, B. Matthew (2003): *The Give and Take on Restaurant Tipping*, Dissertation submitted to the Faculty of the Virginia Polytechnic Institute and State University. Blacksburg, Virginia, Available at: <http://www.scholar.lib.vt.edu/theses/available/etd-10172003-021146/unrestricted/ETDDissertation.pdf>. (15.6.2009)
- Pogačnik, Vid (1997): *Lestvica delovne motivacije*. Ljubljana: Produktivnost.
- Porter, Lyman, W., Bigley, Gregory, A. & Steers, Richard, M. (2003): *Motivation and work behaviour*. Boston: McGraw-Hill/Irwin. ISBN: 9780070609563

- Potočnik, Vekoslav (2004): Trženje storitev v primeru iz prakse. Ljubljana: Gospodarski vestnik.
- Raspor, Andrej (2002): Napitnina kot dodatna stimulacija za delo. Organizacija. Vol.: 35, No.: 5, pp.: 285–295.
- Raspor, Andrej (2007): Vpliv celovite kakovosti storitve v gostinstvu na napitnino natakarjev. In Vpliv produktivnosti in ustvarjalnosti na plače zaposlenih. Eds. Mlakar, Peter & Kejžar, Ivan. pp.: 85–111. XXII posvetovanje Društva za vrednotenje dela.
- Raspor, Andrej (2009): Vpliv napitnine na fleksibilnost dela v slovenskem gostinstvu in igralništvu. 1. Znanstvena konferenca z mednarodno udeležbo. Management, izobraževanje in turizem. ISBN: 978-961-6469-39-5
- Raspor, Andrej (2010): Vpliv razdeljevanja napitnin na motivacijo zaposlenih: primerjava med gostinstvom in igralništvom. Doktorska disertacija. Ljubljana: Fakulteta za družbene vede.
- Robbins, Stephen, P. & Coulter, Mary, K. (2009): Management, Upper Saddle River, N. J.: Pearson Prentice Hall. ISBN: 9780132163842
- Sallaz, Jeffrey, J. (2002): The House Rules: Autonomy and Interests among Contemporary Casino Croupiers. Work and Occupations. Vol.: 29, No.: 4, pp.: 394–427. DOI:10.1177/073088802237557
- Sang, H. Kim (2003): 1001 način, kako motivirati sebe in druge. Ljubljana: Tuma. ISBN: 9789616245616
- Seagrave, Kerry (1998): Tipping: An American History of Gratuities. Jefferson, NC: McFarland & Company. ISBN: 978-0788167409
- Skinner, B. Frederic (1966): Science and human behaviour. New York: The Free press. ISBN: 978-0029290408
- Vukovič, Goran & Završnik, Bruno (2007): Obvladovanje nabave. Celje: Visoka komercialna šola. ISBN: 978-961-6603-38-6
- Wessels, Walter, J. (1997): Minimum wages and tipped servers. Economic Inquiry. Vol.: 35, No.: 2, pp.: 334–349. DOI: 10.1111/j.1465-7295.1997.tb01914.x

ADJUSTMENT DURING THE CRISIS: INSTITUTIONAL BUFFERS ON THE EASTERN EUROPEAN LABOUR MARKETS

Pavol Babos¹

Abstract

The economic crisis had profound effects on labour markets of the EU member states in terms of a decline in employment and a rise in unemployment. This paper investigates how the states limited the impact of the change in economic output on the employment and the unemployment. The analysis suggests that there are different labour market institutions influencing the impact of the fall in GDP on the employment decline and unemployment increase. The first part of the paper explores and compares the extent to which the labour market institutions cushioned the impact of the economic crisis on the EU countries. The second part of this paper provides an in-depth comparative analysis of the labour market institutions and the adjustment mechanisms in Central Eastern European countries: Latvia, Slovenia and Slovakia. In the end this paper suggests that the specific institutional setting of a country, according to the Varieties of Capitalism, might shape the form of the government response to the crisis and the effect of particular institutions on the adjustment channels. The study shows that adjustment in Slovenia took place mostly within the firms, while in Latvia the most efficient adjustment channels actuated outside the firms, mostly within the government sponsored training programmes and international migration. In Slovakia, government sponsored adjustment, which focused on maintaining the existing positions, prevailed together with the promotion of self-employment.

Keywords: Crisis Adjustment, Labour Market Institutions, Unemployment

DOI: <http://dx.doi.org/10.12959/issn.1855-0541.IIASS-2014-no2-art02>

¹ Pavol Babos, PhD is a Junior Analyst at the Institute for Forecasting, Slovak Academy of Sciences. Contact address: pavol.babos(at)savba.sk

Introduction

By the beginning of 2011, almost the entire European Union has begun to recover from the global economic crisis. There is a general agreement in the literature that the EU economy experienced the hardest hit in mid-2008 (Spiegel & Rose 2009, Rosenberg & Purfield 2010). The extent of both the drop in economic output and the fall in the employment and the rise in the unemployment varied significantly among the EU member countries. However, after a closer look at the development in the individual states, one finds examples of simultaneous GDP falling and employment rising, as well as states' drop of output and decrease in unemployment.

This paper investigates the relation between the change in the economic output and the change in the employment and the unemployment in the EU member states. The research was inspired by the similar study by Leschke & Watt (2010) and expands the timeframe of the research and shifts the focus towards Central Eastern Europe. In their original study, Leschke & Watt sought to explain how the labour market institutions influenced the sensitivity of the employment and the unemployment on the economic crisis. Studying four of the Western European countries within a one year time frame, they found that several labour market institutions (hereafter LMI; such as short-time working schemes or employment protection legislation) had considerable influence on softening the effects of the economic shock. This was especially true for countries such as Germany and Denmark, which used the short-time working schemes before the crisis; they were able to either avoid or delay the consequences. Leschke and Watt also found that disability measures and early retirements did not play a significant role in the four countries.

This paper attempts to add value to this line of research by shifting the focus on Central Eastern European countries and widening the timeframe. Including the EU New Member States in the research of adjustment during the crisis is important for several reasons. Firstly, these countries experienced a much faster economic growth before the crisis and a considerably larger contraction of production during the crisis. Also, the productivity growth was faster in the CEE countries due to the catching up process (e.g. Égert, Drine, Lommatzsch and Rault 2003). These reasons provide a strong rationale to investigate the labour market institutions in the CEE countries. We use the term "buffers" as coined by Leschke & Watt (2010).'

Reviewing briefly the development of the labour markets in the EU27, this paper first explores the variation in the change of un/employment in

relation to the change in output. Subsequently, the study focuses on the detailed comparison of the three Central Eastern European countries: Latvia, Slovakia and Slovenia.

After the introduction, the paper continues with a more general section analysing the labour market development in the EU27 with a special focus on the selected countries. This section also draws the conceptual linkages between the core fields of interest – economic output in terms of GDP, employment and unemployment. The sequent third section presents the in-depth analysis of the labour markets development and the role of institutions in their performances in the sample countries. The concluding section discusses the potential influence that the varieties of capitalism have on the form of the adjustment, particularly in the selected countries, as well as generally.

Theoretical Background

Conceptual Linkages between Labour Markets Performance and Institutions

According to the economic theory (the production function), the economic output of a firm depends on the input of labour and capital, e.g. land and technology. In the case of an economic shock, a firm adjusts the input factors according to the demand for its products or services. This paper assumes that adjusting the input of capital is difficult or impossible in the short-term. Therefore, in the case of a sudden fall in demand it is the labour input that is adjusted. Consequently, assuming the capital input is constant; the economic growth might be decomposed as the multiplication of the labour input growth and the hourly labour productivity growth.

In the perfect market environment the labour adjustment usually means laying off workers. This is the easiest solution for firms, and in a perfectly fluid labour market there are no limits to such a measure. Firms can rely on flexible hiring once the demand for the product increases again. However, this is not the case for the EU countries with the developed employment protection legislation and institutions regulating hiring and firing. Thus, firms use the distinct measures to adjust the labour input, for example, quickly re-assigning some of their staff from production to other unproductive activities such as trainings, seminars or maintenance activities. Consequently, the hourly labour productivity decreases and helps to keep the input of labour relatively higher.

The elasticity of the economic output and labour input is to a considerable extent dependent on the changes in labour productivity. This article argues that the labour market institutions facilitating the re-assigning of workers (e.g. benefits for within-firm training) constitute the first institutional buffer. This softens the transfer of the loss in the output into the rise in the unemployment. It does so by lowering the labour productivity.

Change in the labour productivity, however, is not the only option available. The year 2008 saw a considerable rise in using different tools for working time adjustments. Many governments introduced incentives to stimulate firms to use a variety of work-sharing schemes or flexible time accounts. These measures allowed firms facing economic hardships to adjust the working time of their employees and still keep the headcount employment at a constant level. Such measures are considered the second institutional buffer that prevents employment from shrinking despite the fall in the economic output.

Workers, who lose their position, although temporarily, are considered to be out of employment and are not reflected in employment statistics. However, they are not automatically registered as unemployed either. States developed a variety of policies to keep people away from the official unemployment status. Different training schemes and educational programmes for people to ensure they can find a job more easily in the future are a few such programs falling under these policies. On the other hand, there are also early-retirement options and other types of “voluntary” inactivity that translates into a lower level of unemployment. These policies create the third institutional buffer, influencing the pace of such a translation of the loss of employment into unemployment. To answer the questions raised in the study it is necessary to include the international migration of workers within this third institutional buffer.

This study takes the development of GDP as a given fact during the recession period. We investigate the performance of the labour market institutions in cushioning the effect of the output decline into the rise of unemployment. Put simply, this study assumes the static relationship between the variables in short-term. However, it is probable that the labour market institutions have some effect on the output development in long-term, by maintaining higher employment levels and thus preventing the demand from a deeper decline.

As explained by Leschke & Watt (2010), Luxembourg should be excluded from the intra-EU comparison for methodological reasons. More than half of its GDP is accounted for by non-residents, mostly

French and German citizens. Therefore there is a strong assumption that transmission mechanisms between the economic output and employment and unemployment described below would be outweighed by migration and therefore render the regression analysis biased. This argument led the authors to leave Luxembourg out of the analysis. However, for the sake of simplicity, we refer to the EU or EU27 as a whole.

Labour Markets and Varieties of Capitalism

Various adjustment mechanisms were not used across the EU to the same extent. Similarly, member states did not introduce, or strengthen, exactly the same labour market policies fighting the crisis. Answering why it is so could also help us to understand why different institutional buffers were more successful in some states and less in others.

Generally, it is primarily a firm's decision how to adjust the labour input in times of a drastic output decline. However, firms operate in a certain institutional setting, which provides incentives for certain types of decisions and discourages other ones. Additionally, firms in most EU member states are required to coordinate, or at least consult the large-scale measure with trade unions or employees' council, public employment service, or other state agencies (World Bank, 2010). The form of relationships firms have with other relevant actors in the economy therefore influences the form of adjustment within firms and indirectly influences the policies states might need to adopt. The 'Varieties of Capitalism' theory (hereafter VoC; Hall and Soskice, 2001) reflects this actor-centred approach more thoroughly, including the coordination strategies of firms.

In the VoC approach firms interact with other actors on a daily basis and many choices they make depend on how they solve the problem related to the coordination of behaviour of all market actors (Hall & Soskice 2001). Solving these coordination problems depends on the institutional settings of the particular political economies in which firms operate, defined as "*systems of rules that structure the courses of actions that a set of actors may choose*" (Scharpf 1997: 38). Usually the choices influence wages, workers' skills, employment and other labour market related outcomes. In times of economic crisis the type of coordination firms evolved to use may impact the adjustment mechanism they will apply.

Two ideal types emerged in the Hall & Soskice's analysis (2001). In the Liberal Market Economies (LME) hiring and firing costs are rather low,

the labour force is generally skilled, trade unions are weak and the coordination between the actors is to a large extent driven by market forces. Some authors also relate the LME model to a weak or underdeveloped welfare system (Bohle & Greskovits 2007). On the other hand, Coordinated Market Economies CME are known for strategic coordination among actors, informal relations, rich networks and associations. This results in rather rigid hire & fire practices and longer redundancy notices.

Varieties of Capitalism approach has been extensively applied to the CEE region recently (Feldman 2006, Bohle & Greskovits 2007, Knell & Srholec 2007, Babos 2010). Although there is still an on-going debate on the classification of the CEE countries, a basic consensus is as follows. Slovenia is the closest example of a strategically coordinated economy; the Baltic States resemble liberal market-coordinated economies, while the Czech Republic, Poland, Hungary and Slovakia have relatively mixed institutions.

Selection of the countries for comparative analysis is based on the VoC classification. Similarly to Leschke and Watt (2010), we included one country from each group, i.e. Latvia, Slovakia and Slovenia. This allows us to investigate the functioning of labour market institutions across different production regimes and to compare the effect of these institutions. In the selected country sample, Latvia represents the liberal market economy, Slovenia represents the coordinated market economy and Slovakia represents the group of countries with a mixed institutional setting.

Empirical Analysis

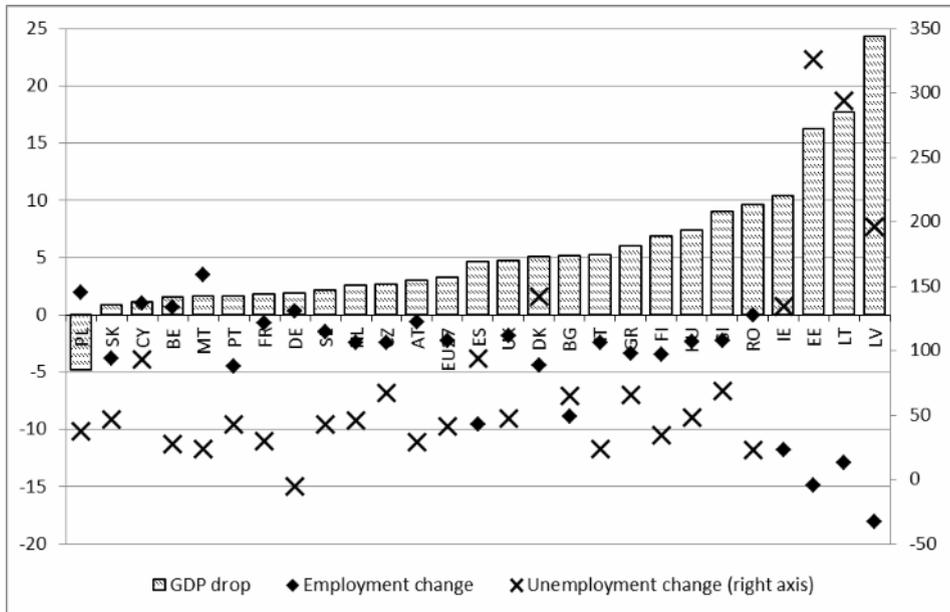
In order to explore the influence of the labour market institutions, this section starts with a brief review of economic development in the EU. We use data from the European Commission databases (Eurostat, Ameco, Labdev)¹. The time span of the analysis runs from the second quarter of 2008 to the same period in 2010.²

1 The total working hours were calculated as a product of total headcount employment and actual average-worked hours per person. Constructing the indicator this way, it is reliable enough to show broad trends in the EU27.

2 Selection of the time span for the study is based on the following reasons. Firstly, the same quarters of a year must be compared due to the unavailability of seasonally adjusted data. Since there is a broad consensus that the crisis hit most of the EU economies in mid-2008, the second quarter of this year was chosen as a starting point. Secondly, almost the whole EU27 was recovering by the end of 2010

Figure 1 shows the development of the main indicators. The Baltics was the highest hit region in the EU, with more than a 15% fall in GDP over two years. Other than that, there are no clear geographical patterns within the distribution of countries. The Central Eastern European countries are evenly distributed across the figure. Although the Slovene GDP declined sharper than the Slovak one, Slovenia's employment dropped less than Slovakia's.

Figure 1: Fall of GDP, Change in Employment (headcount) and Unemployment (shown on right y-axis), 2008Q2 to 2010Q2, in %



Source: European Commission, National Accounts

It is reasonable to assume that a sharper drop in economic output leads to a bigger loss in employment, measured as total-hours worked. Again, the three worst hit countries were the Baltic Republics with the loss of employment more than 12 percentage points. Slovakia and Slovenia were around the EU average (Figure 1). Baltic countries are also those with the highest increase of unemployed people. In Latvia, the number of people out of job has tripled, in Estonia this number was more than four times higher in 2010 Q2 comparing to 2008 Q2. Although the position of the Baltic States in this comparison is expected due to the fall in GDP, there is still an interesting difference regarding the previously discussed developments. While Latvia was the most severely hit by the fall in GDP and employment, it has experienced a considerably slower rise in the

unemployment, compared to its Baltic neighbours. This will be discussed in a more detail in the second part of this paper.

Output, Employment and Unemployment: Regression Analysis

Regression analysis proved that there is a significant relationship among the abovementioned concepts.¹ While predicted values from the regression are a reflection of the EU average, we use residuals for individual countries to compare the elasticity of the adjustment, e.g. the extent to which a change in one variable is accompanied by a change in another variable. Residual values thus express the deviation of the individual case from the line of the best fit, which is the average. Hypothetically, if there were no variation in elasticity, the predicted values would equal the observed values for all countries. While it is important to interpret the elasticity in question cautiously, this serves to highlight deviations of individual countries from the EU average.

Table 1 below presents the ranking of countries according to their residual values, showing the top three, bottom three countries and the countries of interest. Higher ranking of a country means it has a more effective adjustment mechanism². The differences between how the individual economies transpose the output shock into the loss of employment might be explained by the change in working hours (flexible time accounts, work-sharing schemes, short-time work, etc.). The standardized coefficient of 0.985 between the change in headcount employment and total hours employment indicates that an adjustment in working hours slowed down the loss of headcount employment. Romania, Latvia and Slovenia experienced the strongest effect of such an adjustment. On the other hand, Slovakia, Spain and Poland were among the least effective EU countries in this regard.

¹ The absolute values of the beta coefficients are in the Appendix 1.

² The full table with all residual values for all the countries is in the Appendix 2

Table 1: Ranking of Countries Based on Residual Values from Regression Analysis

Rank	Output vs. Employment (headcount)	Output vs. Working Hours	Output vs. Unemployment	Employment vs. Unemployment
1st	Romania	Romania	Latvia	Cyprus
2nd	Latvia	Latvia	Romania	Malta
3rd	Slovenia	Lithuania	Slovenia	Poland
.	.	Slovenia (4th)	.	Slovenia (8th)
.	Slovakia (24th)	.	Slovakia (23rd)	Slovakia (21st)
25th	Poland	Slovakia	Denmark	Ireland
26th	Bulgaria	Spain	Cyprus	Bulgaria
27th	Spain	Poland	Poland	Latvia

Source: Eurostat, Author's own calculation

Regarding the relationship between the development of the economic output and unemployment, Latvia suffered a much smaller unemployment rise while experiencing a relatively greater output shock than its Baltic neighbours. Together with Romania and Slovenia (Table 1, third column) there seems to be LMI cushioning the unemployment increase most effectively. On the other hand, Slovakia, Denmark and Poland seem to have relatively poorer labour market performance. However, not all differences between individual countries can be easily interpreted by LMI. There are more factors that come into consideration, especially international workers' migration with respect to post-communist countries. This will be discussed further in the next section. Loss in the headcount employment is almost never translated into the rise of the unemployment to the same extent. Different mechanisms prevent a certain share of employment loss being classified as unemployed (as discussed above). Within the EU, Pearson's correlation coefficient between the headcount employment and unemployment is 0.812. Regarding the countries of interest, Slovenia ranked relatively high (8th). Both Latvia (27th) and Slovakia (21st) seem to have poorly operating labour market policies to prevent the rise of the unemployment.

The regression analysis indicates that several institutional mechanisms influence the extent of translation of the GDP fall into the employment and the unemployment. Based on the above, it is clear that there are substantial institutional buffers in the EU member states. Having set the

scene, we can proceed to the more comprehensive comparative analysis in the next section.

Labour Market Institutions in Post-Communist Europe: Comparison of Latvia, Slovakia and Slovenia

One of the main findings in the previous section was that the varieties of institutional adjustments in the national states prevented the output shocks from affecting the employment level to the full extent. This section attempts to explain the role that institutions and governments played in this process. Admittedly, this section replicates the structure of the working paper by Leschke & Watt (2010) to a certain extent. The authors examined four Western European countries in a one-year timeframe, while this paper compares the three post-communist countries over two years. The selection of countries was made deliberately so it would enable the comparison of representatives of different “varieties of capitalism” that emerged in Central Eastern Europe (Bohle & Greskovits 2007, Babos 2010). Thus we investigate Slovenia, Latvia and Slovakia.

Output to Employment Institutional Buffers

In theory, the easiest and most preferable firms’ reaction to the production fall would be a decrease in the labour input. However, the national economies are not a virtually perfect free market. Due to the institutional constraints, the immediate decrease in the labour input is not possible. Moreover, all the EU members enacted some type of the employment protection legislation (EPL) that imposes further administrative and financial costs when firing employees.

It is almost impossible to compare the EPL directly among the countries of interest due to the lack of comparative data. However, there is a way for an indirect comparison. In the OECD EPL Index 2008 (the latest available) Slovenia scored higher than both Slovakia and Estonia (supposedly the LME type; Latvia was not included since the country is not an OECD member state). According to the World Bank’s Doing Business report (2011), Latvia has relatively stronger EPL provisions than Slovakia (notice periods and severance payments for redundancy dismissal; no data available for Slovenia), with the exception of the severance payments for a redundancy dismissal of a worker with 20 or more years of tenure. Due to the post-communist history and the major structural changes that business sphere underwent during the last two decades (Myant & Drahokoupil 2011), it is reasonable to expect this specific provision to have marginal if any effect at all. Considering the

industrial relations, the VoC theory assumes Latvia to have the most flexible labour market rules and Slovenia to have the most rigid ones.

The strictest EPL applies usually only to full-time employees with permanent contracts. It is therefore necessary to have a closer look on other forms of employments.

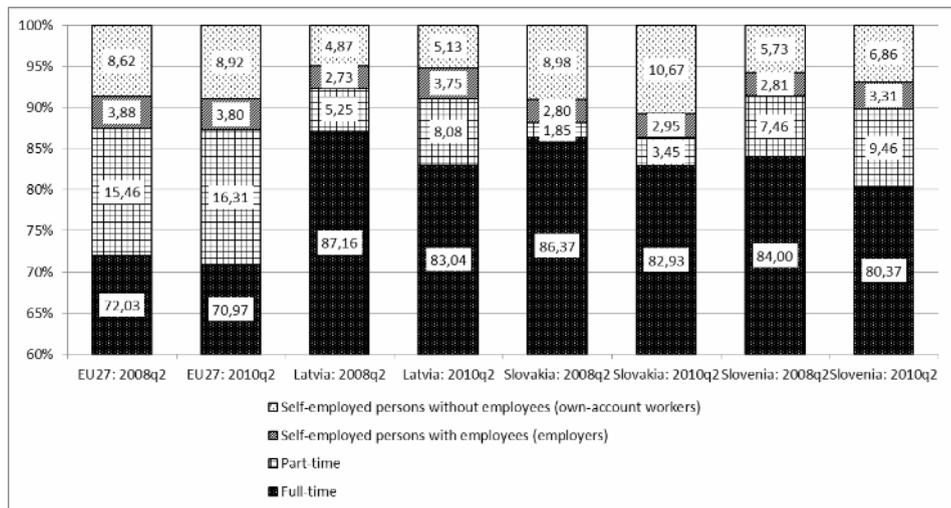
It is the usage of ftypes of employment other than full-time employment contracts, usually part-time work and temporary work, which provides more flexibility to the employers.¹ Figure 2 below shows the employment structure and its change from the 2008 Q2 to 2010 Q2. In all the three countries the share of full-time employees decreased, most severely in Latvia. On the other hand, the rise of the part-time workers and self-employed persons increased. This increase was not big enough to compensate for the full-time employees loss and therefore the overall level of employment was lower in 2010 Q2 comparing to 2008 Q2 (see figure 1). Thus the change in the employment structure might have relieved the pressure on firms and further limited the fall of headcount employment.

Another adjustment took place in the form of assigning employees to non-productive tasks, that led to the decrease in hourly productivity. Since the abovementioned adjustment would occur within the companies, there is little comparative data available. Figure 3 presents an annual percentage change in the labour productivity. Until 2007, the labour productivity was rising every year, mostly in Latvia, slightly less in Slovakia and Slovenia and considerably less at the EU27 level. During 2008 the labour productivity increased further in Slovakia and remained

¹ On top of the part-time work and temporary work there are two other channels that should not be overlooked in post-communist countries. However, due to the low data availability, these are reviewed out of the main text. Based on newspaper articles and political statements, it is clear that there were two major channels that employers used extensively in order to avoid full-time contracts. These are agency work and so-called “false self-employment.” An option which had experienced relatively high popularity among employers, agency work, has fallen victim among the first with the crisis worsening the pressures. The reason is that agency work is usually a very flexible type of employment from the company’s point of view. Despite a great deal of newspaper articles there are not reliable data available to prove the trend in laying-off the agency workers on the first place. However, ILO report concluded, among others, that “agency-placed workers have fulfilled a pressure-valve role, protecting “core” work forces from the initial consequences of the economic crisis” (ILO 2009: 35). Another phenomenon occurred in several countries, where major companies pushed their employees into self-employment arrangements and contractor-type of relationship. This allowed to avoid paying social insurance contributions and thus became much cheaper form of employment. This is especially a problem in construction, as Harvey points out (2001).

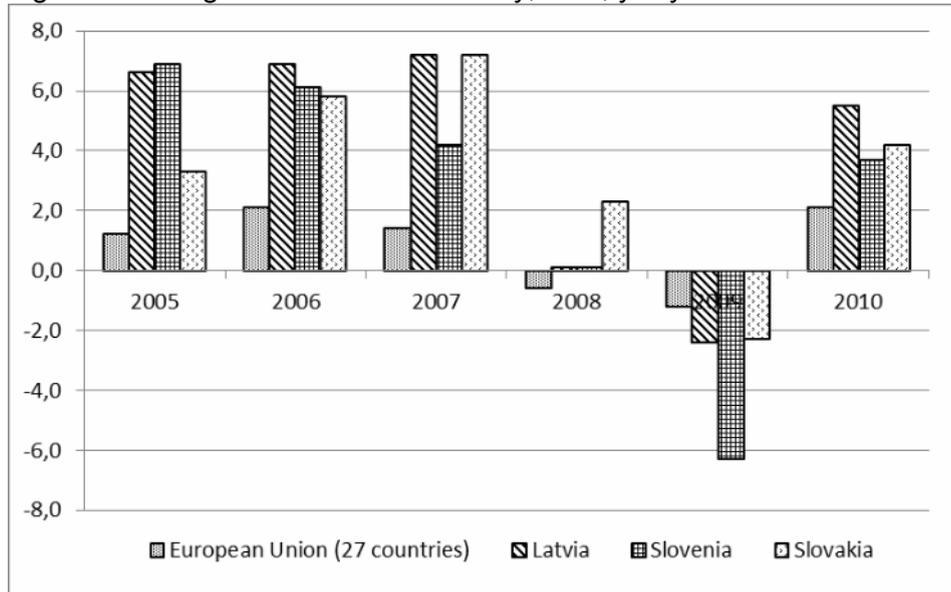
stable in Slovenia and Latvia. Data for 2009 show a further decrease in the labour productivity, again mostly in Slovenia. This indicates that shifting employees from productive to unproductive activities was used to maintain the headcount employment rates despite the economic problems that companies encountered. In 2010 the labour productivity increased in all three countries, however, the least so in Slovenia. This indicates that the institutions such as training programmes were the most effective in Slovenia.

Figure 2: Change of the Employment Structure, from 2008q2 to 2010q2



Source: European Commission, LFS

Figure 3: Change of Labour Productivity, in %, y-o-y



Source: European Commission, Ameco

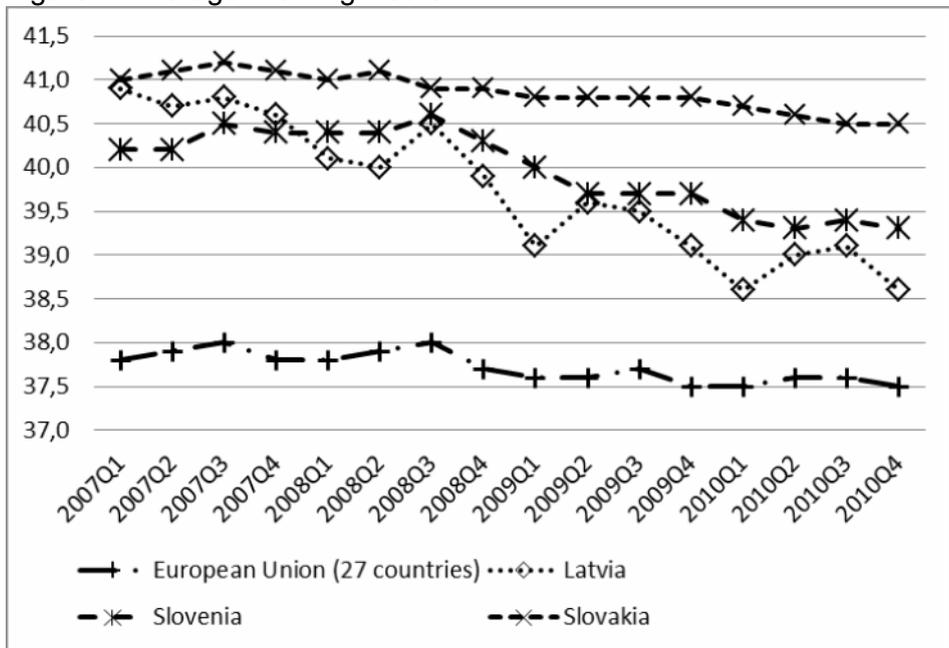
Adjustments in the working hours operated as another buffer. According to the European Commission report (EC 2010a), the introduction of the short-time working (STW) schemes increased internal flexibility, especially in a state with a low external flexibility. Calavrezo et al (2009) confirmed in their study that the introduction of the STW schemes led firms to decrease average working hours.

Latvia, Slovakia and Slovenia did not have any experience with similar provisions before the crisis. The newly introduced STW schemes differed among the countries. Latvian state support was directed exclusively towards private owned companies under the conditions that working time was reduced due to the economic crisis and a new workload was less than 20 hours a week. The so-called “contribution to support maintenance of workplace” was introduced in Slovakia. Employers that reduced the working hours but still continued to pay employees more than 60% of their salary were entitled to the contribution that covered the social insurance or payroll taxes. In addition, “flexi-accounts” were introduced as a temporary measure. Upon agreement with trade unions the employer may have reduced the working hours while economic difficulties occur and keep paying the basic wage. Subsequently, when the economic obstacles are removed, an employee might be asked to work overtimes with no extra compensation. In Slovenia, two similar schemes were introduced for subsidizing workers’ salaries with reduced working hours. Firms using

the subsidy had to pay full social security contributions for the workers and were forbidden to pay management bonuses. This indicates that the country with the supposedly highest external flexibility (Latvia) introduced only minimalist provisions of the STWs. Moreover, application of the STW measures had to be agreed on by the unions in both Slovakia and Slovenia, which is again in line with the VoC expectation. This suggests again that the institutional setting has its influence on the adjustment policies.

No comparable data is available to compare how many people and/or companies have been involved in the SWT schemes so far and how many workplaces were saved. The development of an indirect measure, the average working hours per week, is shown in Figure 4. Latvia experienced the relatively biggest negative change in the average working hours. A peak-to-bottom difference is 2.3 hours in Latvia, 0.7 hours in Slovakia and 1.3 hours in Slovenia, showing that the largest adjustment occurred in Latvia. This indicates both the stronger external pressures for such an adjustment and stronger use of institutions that allowed thereof. A smaller adjustment of working hours in the other two countries might have been caused by companies' preference for other measures such as non-standard types of contracts, and of course by a smaller external economic pressure.

Figure 4: Average Working Hours



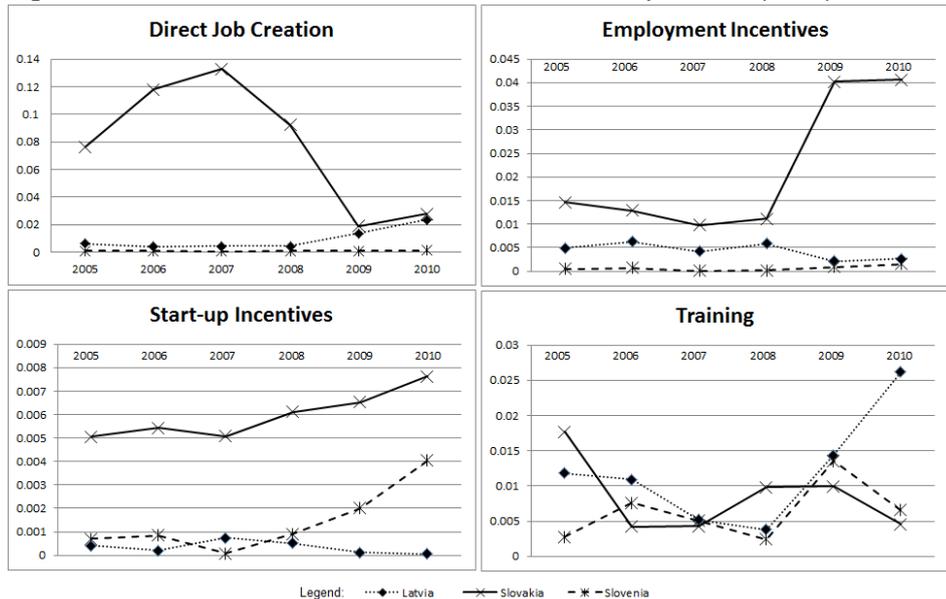
Source: European Commission, Ameco

Employment to Unemployment Institutional Buffers

During the 1990s the unemployment was exceptionally high in Latvia and Slovakia and the rate of unemployment kept double digits almost the whole time, contrary to Slovenia. Latvia achieved a single digit unemployment rate in the mid-2000s while Slovakia did so only in the run-up to the crisis (figures not shown). The institutional buffers between the employment and the unemployment consist mainly of the active labour market policies. The reason is that many of the programmes are not compatible with the official unemployed status and thus individuals in any ALMP programme are not counted as unemployed. Since these programmes are designed differently across the national states, it is not easy to compare their effect internationally. Eurostat provides some comparable data based on broad categories of services, subsidies and out-of-work income support. Data show an upward trend in the number of people using different ALMPs (figures not shown) until 2009. Since there is no data available for all the categories of the ALMPs, and some of the policies were introduced in Latvia only during the crisis, having been implemented for a longer time in Slovakia or Slovenia, it is not possible to compare the development in all the categories.

Figure 5 below shows the ratio of persons in the selected ALMPs to the active population. The Latvian training scheme was able to increase the integration of people in the training programs from about 1,500 in 2008 to almost 10,000 in 2010. In Slovakia the increase in the same reference period was roughly 400. Slovenia experienced a rise in the number of training schemes participants from about 3,400 to 9,500. Taking into account the labour market size, Latvia had the strongest institutional buffer in the form of training programs with Slovenia being only slightly behind. On the other hand, Slovak labour market policies focused more heavily on the financial support of the existing employment. The number of people receiving the employment incentives was the highest in Slovakia, in both relative and absolute terms. Slovakia also provided the start-up incentives to the most people.

Figure 5: Ratio of Persons in ALMPs to Active Population (in %)



Source: European Commission, LFS

This and the previous section show that in Slovenia the most successful institutions (in terms of buffering the crisis impact) were those taking place within companies and requiring cooperative industrial relations: assigning workers to non-productive activities and partly the STWs. On the other hand, Latvia's adjustment proved to be more effective out of the firms' environment: mostly government training programmes and, to a certain extent, start-up incentives (and international emigration, discussed in the next section).

Discussion: Adjustment Mechanisms and VoC

The empirical analysis identified a fistful of adjustment mechanisms functioning in the selected countries. However, some of the measures were used more frequently in one country than in the others. This section discusses the varying use of adjustment measures and suggests a classification that seems to emerge. Latvia experienced the most severe GDP fall within the EU. In absolute numbers; the level of un/employment was fluctuating more than in Slovakia and Slovenia. However, in relation to the GDP fall Latvia outperformed other countries. Adjustment channels mainly took form of shortened working hours in the public sector and government sponsored training programmes.

Regarding the elasticity of the relationship between the economic output and un/employment, Slovenia ranked relatively high in cushioning the

crisis impact. However, the buffering institutions were different from those in Latvia. While in Latvia the buffers were driven mostly by forces outside firms (government training schemes, working-hours adjustments, outward migration), Slovenia opted for the solution requiring intra-firm coordination (short-time working schemes, employment subsidies and early retirements)¹.

As the regression analysis showed, Slovakia performed relatively poorly in cushioning the effects of the crisis on the socio-economic outcomes. In contrast, for Slovenia and Latvia we cannot conclude that there were either market-driven or strategically coordinated institutions prevailing. Clearly, the government relied on providing financial means for sustaining the existing jobs and (self-) employment incentives (figure 5).

This paper explored the measures taken and the frequency of their use in the three countries. Two lines emerged along which the adjustment measures could be divided. Firstly, we observed that the adjustments took place either within the firm (measures as STWs or flexi-accounts preventing the loss of employment) or outside the firm (training programmes, start-up incentives or migration, all of which limits the increase of unemployment). Secondly, the measures were either in a financial form (subsidies for maintaining employment, direct job creation, start-up incentives, etc.) or in non-financial form (here belong training schemes, STWs, job-sharing and others).

When exploring the frequency of the specific measures' use in the three post-communist countries, there is also a pattern emerging. In Slovenia, the adjustment occurred dominantly within the firm and via non-financial mechanisms. Strategic coordination between employers and the state might have facilitated the use of STW schemes as well as subsidized training. Relatively strict EPL in combination with the developed welfare state provided protection for older workers, since unemployment in the category of workers age 55 and above remained relatively stable. Therefore, we suggest the country's variety of capitalism might influence the form of adjustment in case of the external economic shock.

In Slovakia, the prevailing adjustment type has a financial form and took place out of the firm. The country had previously attracted the majority

¹ We intended to include the early retirement as another buffer. However, the situation in the three countries is different to an extent that hampers international comparison. However, we know that early retirement was not an option in Latvia, while this was possible in Slovenia. In years 2008, 2009 and 2010 there were roughly 30-, 20- and 30- thousand new early retirees in Slovenia. Numbers are not available for Slovakia by Eurostat, possibly because of several changes of the legislation in this field.

of its investors and big employers by neo-liberal tax policies and looser employment protection legislation. However, the underlying institutions sustained to be closer to a strategic type of coordination, based on collective agreements and ALMPs oriented toward protection rather than prevention. Relatively generous welfare benefits did not create strong incentives for the employment alternatives such as training programmes or outward migration. Moreover, many newspaper articles indicate that Slovak workers were coming back to the country after losing their jobs abroad. Thus, the mixed institutional setting is in line with the lower LMI efficiency found by this study.

These observations could be possibly explained by the Varieties of Capitalism theory. It is in line with the VoC expectation that in Slovenia, supposedly the CME model, the adjustment would take a form of coordinated action that, in combination with a strong EPL, would focus on preventing workers from losing jobs. On the other hand, in Latvia, the hypothetical LME type, the most frequently used measures were out of the firm (possibly due to the lack of coordination mechanisms).

We argue that the welfare system also plays a role as a motivating factor in some of the adjustment channels. Arguably, the minimum level of the social protection could have contributed to the outward migration in Latvia. A minimal welfare state and a huge increase in unemployment put more pressure on the outward migration. Fluid labour markets would explain the high fluctuation of the employment and unemployment indicators. On the other hand, a developed welfare system might have an attracting effect for migration in Slovakia and Slovenia. According to some authors, the welfare system is an integral part of the capitalist variety (Bohle and Greskovits 2007). Thus, it is possible to see links between the VoC explanations and crisis adjustment in this regard as well.

Conclusion

This paper investigated how labour market institutions softened the impact of the economic crisis on the un/employment in three selected post-communist EU countries. We have identified several institutions with the buffering effect, and have explained the extent to which they were used in different countries.

What we observed is that the labour market institutions and the intensity of the specific measures' usage interact so that varying degrees of institutional complementarity emerge. It was beyond the scope of this study to test whether the VoC developed in the individual states causes the form of adjustment. However, the observed variance in the

adjustment forms and its complementarity to the VoC typology suggests that there is a link between the two.

Testing the causal relationship between the VoC typology and the form of institutional adjustment, however, remains a task for future research. One of the limitations that presented itself in this research is the limited availability of comparable data for large-N cross-national research. Bearing this in mind, the small-N case studies seem to be the way to explain the institutional adjustment in further detail.

References:

- Arpaia, A., Curci, N., Meyermans, E., Peschner, J., Pierini, F. (2010, June): Short time working arrangements as response to cyclical fluctuations. *European Economy, Occasional Papers 64*, European Commission, pp.1-93. doi: 10.2765/53330
- Babos, P.: *Varieties of Capitalism in Central and Eastern Europe* (2010): Measuring the Coordination Index of a National Economy. *SEER Journal for Labour and Social Affairs in Eastern Europe*, Vol. 13, No. 4
- Bahna, M. (2008): Predictions of Migration from the New Member States after Their Accession into the European Union: Successes and Failures. *International Migration Review*, Vol. 42, No. 4, pp. 844-860. DOI: 10.1111/j.1747-7379.2008.00149.x
- Bohle, D., Greskovits, B. (2007, May): Neoliberalism, Embedded Neoliberalism and Neocorporatism: Towards Transnational Capitalism in Central-Eastern Europe. *West European Politics*, Vol. 30, No. 3, pp. 443 – 466, DOI: 10.1080/01402380701276287
- Calavrezo, O., Duhautios, R. and Walkowiak, E. (2009): "The Short-Term Compensation Program in France: An Efficient Measure against Redundancies?", Working paper no. 114,
- Divinský, B. (2007): Labor market – migration nexus in Slovakia: time to act in a comprehensive way. *International Organization for Migration*, Bratislava, , pp. 1-229. ISBN 978-80-89158-17-1
- Égert, B., Drine, I., Lommatzsch, K., Rault, Ch. (2003): The Balassa-Samuelson effect in Central and Eastern Europe: myth or reality? *Journal of Comparative Economics*, Vol 31, No. 3, pp. 552-572. DOI:10.1016/S0147-5967(03)00051-9
- Gal, Zs. (2009): Immigration to advanced countries - five main approaches. *Panorama of global security environment*, Bratislava: CENAA, 2009, pp.. 607-624
- Hall, P.A., Soskice, D.W. (2001): *Varieties of Capitalism: The Institutional Foundation of Comparative Advantage*. Oxford University Press, New York

- Harvey, M. (2001): Undermining construction The corrosive effects of false self-employment. Institute of Employment Rights, London, pp. 1-56
- Hijzen, A. and D. Venn (2011), "The Role of Short-Time Work Schemes during the 2008-09 Recession", *OECD Social, Employment and Migration Working Papers*, No. 115, OECD Publishing. DOI: 10.1787/5kgkd0bbwvxp-en
- Kaczmarczyk, P., Okolski, M. (2005): International Migration in Central and Eastern Europe – Current and Future Trends. United Nations, pp. 1-31. Available on 13 May 2012 at: http://www.un.org/esa/population/meetings/ittmigdev2005/P12_Kaczmarczyk%26Okolski.pdf
- Knell, Mark; Srholec, Martin.(2007) Diverging Pathways in Central and Eastern Europe. In Lane, David; Myant, Martin (Eds.): *Varieties of Capitalism in Post-Communist Countries* (New York: Palgrave Macmillan), pp. 40-62. DOI: 10.1057/9780230627574
- Lane, D., Myant, M. (2007): *Varieties of Capitalism in Post-Communist Countries*. Palgrave – MacMillan, DOI: 10.1057/9780230627574
- Leschke, J., Watt, A. (2010, April): How do institutions affect the labour market adjustment to the economic crisis in different EU countries? Working Paper, European Trade Union Institute, 2010. pp. 1-66
- Mansor, A., Quillin, B. (2007): *Migration and Remittances: Eastern Europe and the Former Soviet Union*. World Bank, pp. 1-208, ISBN 978-0-8213-6233-4. DOI: 10.1596/978-0-8213-6233-4
- Myant, M., Drahoukoupil, J. (2011): *Transition Economies: Political Economy in Russia, Eastern Europe, and Central Asia*. Wiley Publishing, pp. 1-391
- OECD Employment Outlook 2010 (2010): *Moving Beyond the Jobs Crisis*. OECD, pp. 1-310. ISBN 978-92-64-08614-2. DOI : 10.1787/empl_outlook-2010-en
- Purfield, C., Rosenberg, C. B. (2010, September): Adjustment under a Currency Peg: Estonia, Latvia and Lithuania during the Global Financial Crisis 2008-09. IMF Working Paper WP/10/213.
- Rose, A. K., Spiegel, M. M. (2009, September), : Cross-Country Causes and Consequences of the 2008 Crisis: International Linkages and American Exposure. NBER Working Paper 15358, DOI: 10.3386/w15358
- Skribans, V. (2009): Influence of Labour Migration On Latvia's Labour Market. MPRA Paper no. 19253. Downloaded on June 25th 2011, available at: <http://mpira.ub.uni-muenchen.de/19253/>
- Wood, S. (2001): *Business, Government and Patterns of Labor Market Policy in Britain and the Federal Republic of Germany*. IN: Hall, P.A., Soskice, D.W.: *Varieties of Capitalism: The Institutional Foundation of Comparative Advantage*. Oxford University Press, New York, 2001

World Bank: Doing Business 2011 (2010): Making a Difference for Entrepreneurs. Washington, USA, pp. 1-267. ISBN: 978-0-8213-7960-8

Appendix 1: Correlations Between Changes in Economic Output, Employment (both Headcount and Hours) and Unemployment

Change in:	OUTPUT	EMPLOYMENT	TOTAL WH	UNEMPLOYMENT
OUTPUT	1	-,826**	-,817**	,756**
EMPLOYMENT	-,826**	1	,985**	-,813**
TOTAL WH	-,817**	,985**	1	-,827**
UNEMPLOYMENT	,756**	-,813**	-,827**	1

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

Appendix 2: Residual values from regression analysis

Country	Output vs. Unemployment	Output vs. Employment	Output vs. Working Hours	Employment vs. Unemployment
AT	0,1653	0,510931	-0,44554	0,700887
BE	-1,23555	0,237585	0,635451	1,921155
BG	0,24669	-5,05436	-4,36847	-5,60121
CY	-5,44851	0,126623	0,692964	5,869009
CZ	-2,41546	-1,54634	-1,78772	0,9988
DE	0,936872	0,265057	1,162296	-0,15567
DK	-4,22941	-0,96583	-4,07055	3,057476
EE	-3,57853	0,411978	0,506435	2,573619
ES	-1,89429	-6,15527	-5,82348	-4,68281
EU27	-0,27297	-0,75438	-0,68605	-0,26855
FI	3,662689	1,702237	1,898755	-1,80843
FR	-1,09911	-0,74681	-0,42285	0,70373
GR	1,029207	0,927	1,564162	-0,03251
HU	3,438513	3,300591	3,408109	0,054422
IE	1,525463	-2,52252	-2,62562	-4,73709
IT	2,647191	1,032943	0,914981	-1,36487
LT	-0,26242	3,751663	4,301112	2,817383
LV	11,91745	5,58585	6,269374	-7,60983
MT	-0,99514	2,938961	3,254064	4,585685
NL	-1,20961	-1,5892	-1,38994	-0,18957
PL	-8,14944	-4,9015	-5,86796	3,757142
PT	-2,00028	-4,47206	-3,72927	-2,41595
RO	7,108083	7,667128	7,530264	0,972153
SE	-1,56293	-1,20627	-0,1336	0,617905
SI	3,860505	4,966	3,470076	1,246848
SK	-2,98142	-4,59948	-4,69364	-1,52599
UK	0,7971	1,089489	0,436632	0,516263

CREATIVITY AND INNOVATIVENESS IN PUBLIC SECTOR

Anamarija Kejžar¹, Franc Vidic²

| 52

Abstract

There are many factors that influence the community performance. In order to sustain competitive advantage and to increase performance, a community needs to offer high-quality products at low cost. Many firms have responded to these competitive demands by being innovative. The main objective of this paper is to better understand the innovation process and social capital in “knowledge era”. The paper specifies some competencies and values and their relationship with social interactions at work, job security and the sector where they work. We also recognized the differences between the private and the public sector.

Keywords: Public/private sector, innovativeness, autonomy, Topic Group: Knowledge Management

DOI: <http://dx.doi.org/10.12959/issn.1855-0541.IIASS-2014-no2-art03>

Introduction

Structures of organizational resources have shifted from material to intangible assets during the last two decades. Economists (Augier and Teece, 2005) claim that “knowledge” and “intellectual capital” are two vital and intangible assets that help organizations to create value and wealth. Drucker (1993) asserted that human knowledge leads to innovation and to “Knowledge Society.” Lin and Edvinsson (2011) also stated that “Knowledge society” is incredibly accelerating the economic and social development.

The economy is relying on knowledge-based activities much more than ever before. There are at least three, interrelated, main arguments for this: 1) the proportion of labor that handles tangible goods has become smaller than the proportion engaged in the production, distribution and processing of knowledge; 2) the share of codified knowledge and

¹ Anamarija Kejzar, PhD is an Senior Lecturer and Secretary general at the Business School Erudio. Contact address: [anamarija.k\(at\)erudio.si](mailto:anamarija.k(at)erudio.si)

² dr. Vidic Franc is a lecturer. Contact address: [vidicfranc07\(at\)gmail.com](mailto:vidicfranc07(at)gmail.com)

information in the value of many products and services is significantly increasing; 3) knowledge-intensive activities are rapidly growing (Laster, Cassiolato and Maciel, 2004). Entrepreneurial orientation which involves long-term development guidelines and vision, mission, work with customers and setting up new capacities is important. Realizing the vision of entrepreneurs can be related to knowledge creation (Cui, Zheng, 2007).

The recognition that innovation extends beyond formal R&D activities, in its turn, emphasizes the importance of also taking into account: continuous improvement in product design and quality; changes in organization and management routines; and creativity in marketing and modifications to production processes that reduce costs, increase efficiency and ensure environmental sustainability (Laster, Cassiolato and Maciel, 2004). Mytelka and Farinelli propose that innovation should then be understood as ‘the process by which firms master and implement the design and production of goods and services that are new to them, irrespective of whether or not they are new to their competitors – domestic or foreign’.

The paper is organized as follows. Firstly it introduces the reader to some basic elements and concepts that are central to understanding the approach. The main objective is to provide greater understanding of the approach as a flexible and useful conceptual framework for innovation analysis in wider society. We investigate a potential link or the impact of several factors (competition, social interaction at work, sector of employment) to the level of innovation and empirically verify the accuracy of the theoretical set of hypotheses.

Research background and hypotheses

Ensuring the economy’s continuing prosperity and improving productivity is a priority of government’s executives (Karchegani, Sofian and Amin, 2013). Human capital is the most important asset. Human capital includes anything associated with the people within the community. It includes elements such as employees’ tacit knowledge, skills, experience and their attitude (Bontis and Serenko, 2009). It can be seen as a primary tool for an organization to learn by influencing the ability to acquire new knowledge (Kang and Snell, 2009). Social capital has an important role in exchanging information and creating new knowledge. Social capital is a set of mostly informal institutions (social habits and norms) which affect the levels of trust, interaction and learning in a social system and cannot be accumulated in a straightforward way (Johnson and Lundvall, 1994). They suggest that social capital, together with learning processes, is the key to development strategies. Thus ‘social

capital' is the fabric on which the complex web of human creativity and innovative capacity can develop (Johnson and Lundvall, 1994). The generation and use of knowledge and the reduction of social inequalities become connected and reciprocally indispensable. The necessary strategies will depend on the capacity for technological and social innovation – in a country, a region, a community (Laster, Cassiolato and Maciel, 2004).

Ensuring the economy's continuing prosperity and improving productivity is a priority of government's executives. These objectives can be met by encouraging innovation among business community (Karchegani, Sofian and Amin, 2013). In the beginning of the 21st century, studies have frequently been conducted on organizational innovation with respect to economics, strategic management, human-resource management and marketing fields. Rose, Shipp, Lal and Stone (2009) noted that innovation has been recognized as an important driver of economic growth and normally enables the organizations to offer better quality products and services at lower prices. The system of innovation may be thought of as a set of factors such as firms, other organizations and institutions that interact in the generation, diffusion and the use of new and commonly useful knowledge in the product and the process (Fischer, 2001).

Creativity and innovation are inevitably linked to entrepreneurship. Entrepreneurship is creating and building something of value from practically nothing (Timmons, 1994). Our argument in this paper is that creativity is the genesis of entrepreneurial activity (Meyer, 1999). Csikszentmihali (1996) defines creativity as both a complex social process and an individual activity. In the first instance, his research points out that creativity "arises from the synergy of many sources and not from the mind of a single person." But the environment and context of creativity can either unleash or stifle individual creativity. Thus, changing environmental contexts and problem solving structures can either enhance or truncate individual and group creativity (Csikszentmihali, 1996). Entrepreneurial attitudes and behaviours are critical for new ventures to facilitate the utilization of new and existing knowledge to discover market opportunities (Wiklund, Shepherd, 2003).

Innovativeness is defined as a successful generation, development and implementation of new and novel ideas, which introduce new products, processes and/or strategies to a company or enhance current products, processes and/or strategies leading to commercial success and possible marketing leadership and the creation of value for shareholders, driving economic growth and improving the standard of living (Katz, 2007). Innovations include the integration process of creative knowledge. The

innovation process involves a series of stages from the idea of the invention, through the presentation of the product/service development, production and conquest of use. Grant (1996), Spender (1996) and Teece (2000) observed the correlation between innovation and creating knowledge through the collection and its use in the enterprise.

Knowledge and innovation are widely considered as a key prerequisite for achieving organizational competitiveness and sustained long-term wealth in an increasingly volatile business environment (Esterhuizen, Schutte and Toit, 2011). Organization learning correlates with entrepreneurial orientation (Vidic, 2013), improves the innovation process and its effectiveness (Huang and Wang, 2011) and competitive advantage (Barsh, 2007).

Innovation occurs through the interaction between people. We investigated factors that influence the innovation process in the public as well as in the private sector. The purpose of the study was to determine whether there are statistically significant differences between public and private sectors towards the innovation process, in the context of organizational culture that encourages innovation: social interactions at work, involvement in introducing innovations and job security.

Hypothesis 1: There is a statistically significant positive correlation between the level of innovation in organization and social interactions at work.

Hypothesis 2: There is a statistically significant positive correlation among involvement in the introduction of innovations in the organization and the competencies achieved.

Hypothesis 3: There is a statistically significant negative correlation between job security and innovation involvement.

Hypothesis 4: There are statistically significant differences depending on the degree of innovativeness between different professional groups within the public sector.

Research design and methods

A method of data processing. The data was obtained with the help of a questionnaire. We used descriptive methods, factor and correlation analysis and analysis of variance, Tukey test and Cronbach coefficient to process the collected data.

Any statistically significant conclusions were accepted at 5 % level of risk.

Sample selection and data collection

A sample framework was graduates who finished their studies in Slovenia in 2002/2003. We used data from 1351 respondents (441 men and 905 women). The age structure is: 503 respondents are younger than 30, 609 are between 31 and 40 years old, 188 are between 41 and 50 years old, 51 respondents are over 50 years old. Most of them (811) work in a public sector, 37 respondents are employed in the private non-profit sector, and 476 in the private sector. According to their profession, the most dominant members of the group are professors, lecturers at secondary schools and primary school teachers (382), managers (347), engineers and architects (282), doctors (132), officials in public administration (106) and lawyers (103).

The questionnaire study (HEGESCO project, 2009) used a standard questionnaire of 11 sets of questions; 1) Study program in which you graduated in 2002/2003; 2) Other education and related experience; 3) Transition from study to work; 4) First job after graduation; 5) Employment history and current situation; 6) Current work; 7) Work organization; 8) Competencies and knowledge management; 9) Evaluation of the study program; 10) Values and orientation; 11) About yourself; From the point of view of this research paper we chose several questions mainly from the next two sets of question: Competencies and knowledge management; Values and orientation. The respondents were asked to what extent they agree with the statements above. They had to assess their agreement on a seven and five-point Likert scale. Competencies were measured by the seven-point scale, where 1 means "very low" and 7 means "very high" from the aspect of own level and required level in current work. Values and orientation were measured from the importance and applied to the current work view. Likert scale five-point was used where 1 means "not at all" and 5 means "very important".

Analysis and results

The survey was conducted at the University of Ljubljana. The data from returned questionnaires was first entered into the database at UL and then a descriptive analysis was performed using the statistical software package Statistical Analyses Software (SAS).

As we examine creativity and innovation through the achieved level of competence in terms of sector of work, we have studied the particular factors that are specific to the public sector, such as greater job security, lack of involvement in innovation and lack of innovative thinking with the search for new ideas because of precise determination and predictability of procedures which is known for organizations in the public sector. In examining the collaborative climate in the public sector as a prerequisite

for knowledge management, Sveiby (2000) found out that the public sector employees are rated at a lower collaborative climate than employees in the private sector. Lack of innovation, finding new ideas, greater job security and lack of competition are factors that we have selected for the research according to the classical model of bureaucratic organization (Weber) and the criticism of it. Results of the research tell us that, for example, job security is the reason why employees in the public sector are less involved in innovation, and whether the ability to search for new ideas varies with employees according to the sector of their work. By researching the mutual interdependence of the variables we wish to demonstrate that the reason for lower innovation achieved competencies and creative and innovative thinking is not located in the sector of work. We believe that the key to greater activation of tacit knowledge is in the proper management of the organization.

Nonaka and Takeuchi (1995) believe that the main mode of transmission of tacit knowledge is communication - social interaction at work. In terms of organization, we therefore examined innovation and social interaction, and their interactions, as well as the relationship between social interactions and employee satisfaction - which also means upgrading the research by authors such as Granovetter (1973), Nonaka and Takeuchi (1995). We also examined whether there are differences in the extent of social interactions according to the sector of work. These differences could also explain the lower level of innovation organization.

On the other side, we studied the interaction between the competencies and the existence of market competition and job security in the public sector. Selected factors are those that represent a significant difference compared to the private sector. From the perspective of "generally known" differences between the public and private sectors, we also examined the interconnectedness between sectors of work and the following variables: the ability of new ideas among employees, innovation and the extent of social interaction.

Therefore, only those variables that are specific to the public sector were excluded from an extensive questionnaire and compared to the ones in the private sector. We used factor analysis from the set of Knowledge management and competencies and got 3 types of competencies. We will focus only on one type of competency, which is relevant for our research - business competencies. Business competencies have been named those competencies which are in the business world important for successful work.

First, we want to disclose the business competencies between the observed variables in the set of Competencies and Knowledge Management in the questionnaire. The data used for the purposes of the survey were willing to factor analysis. The results of the factor analysis (the expected competencies) are as follows on Table 1.

Table 1: Factor analysis of competences

	Business competencies	Mastery and analytical competencies	Multicultural competencies
Mastery of your own field or discipline	.	0.56311	.
Knowledge of other fields or disciplines	.	0.45701	.
Analytical thinking	.	0.65260	.
Ability to rapidly acquire new knowledge	.	0.74974	.
Ability to negotiate effectively	0.39453	.	.
Ability to perform well under pressure	0.47054	.	.
Alertness to new opportunities	0.43216	.	.
Ability to coordinate activities	0.62410	.	.
Ability to use time efficiently	0.56421	.	.
Ability to work productively with others	0.61261	.	.
Ability to mobilize capacities of others	0.74963	.	.
Ability to make your meaning clear to others	0.69667	.	.
Ability to assert your authority	0.74771	.	.
Ability to use computers and the Internet	.	0.65889	.
Ability to come up with new ideas and	.	0.57658	.

solutions					
Willingness to question your own and others' ideas		0.53988	.	.	
Ability to present products, ideas or reports to an audience	0.44084	.	.	.	
Ability to write reports, memos or documents	0.40798	.	.	.	
Ability to write and speak in a foreign language	.	.	.	0.63097	
Professional knowledge of other countries (economy, society, legislature ...)	.	.	.	0.80525	
Knowledge of intercultural differences	.	.	.	0.81241	
Ability to work with people from other cultural environments	.	.	.	0.70348	

Based on a large number of observed variables, among which there is a positive correlation the following business competencies factor was determined (Cronbach's alpha coefficient = 0.88). We used this correlation between selected variables to test hypothesis.

Descriptive analysis

Table 2: Descriptive analysis of business competencies, social interactions, level of innovation, involvement in introducing innovation, job security.

Carried variable		N	Avg.	Std. dev.	Min.	Max.
Business (actual)	competencies	1282	5.37	0.80	2.18	7.0
Business (expected)	competencies	1275	5.49	0.98	1.27	7.0

Social interactions	1290	3.23	1.14	1.0	7.0
Level of innovation	1266	3.30	1.21	1.00	5.00
Involvement in introducing innovation	1317	1.90	0,85	1.00	5.00
Job security	1316	3.97	1.10	1.00	5.00

The results of the relationship between the level of innovation in an organization in the field of products and services and social interactions at work (Table 3)

Table 3: Relationship between the level of innovation and social interactions at work

	Level of innovation
Social interaction at work	0.06
Social interaction at work	p>.025

The results of the relationship between involvement in innovation in the organization and achieved competencies (Table 4).

Table 4: Relationship between involvement in innovation in the organization and achieved competencies

	Business competence (actual)
Involvement in introducing innovation	-0.03
Involvement in introducing innovation	p>.33

Results show a significant negative relationship between job security and involvement in innovation:

Table 5: Relationship between job security and involvement in innovation

	Job security
Involvement in introducing innovation	0.00802
Involvement in introducing innovation	p>.7741

Tukey's test. Tukey's test compares the means of every treatment to the means of every other treatment; that is, it applies simultaneously to the set of all pair wise comparisons

$$\mu_i - \mu_j$$

and identifies any difference between two means that is greater than the expected standard error. The confidence coefficient for the set, when all sample sizes are equal, is exactly $1 - \alpha$. For unequal sample sizes, the confidence coefficient is greater than $1 - \alpha$. In other words, the Tukey method is conservative when there is unequal sample size.

There are statistically significant differences by sector of work in the innovation organizations in the field of products and services ($F=22.66$, $p<.0001$). Where there are statistically significant differences, Tukey's test has also been used, which showed exactly which sectors or between which groups those differences actually exist. . Test stems from the fact that the higher the number of groups (sectors) is, the difference between the two extreme samples is greater than the lesser, if the difference at a given α is proved. In this case α is 0.05. Tukey's test showed that there were statistically significant differences between the private non-profit and public sectors (1.221) and between private profit and public sectors (0.730).

Table 5: Differences by sector of work in the innovation organizations in the field

	Avg.	Std.	Stat. significant differences
1 Public	3.0756	1.2389	1-2,
2 Private N	3.765	0.9230	1-3
3 Private P	3.6237	1.098	
4 Other	3.624	1.014	

Verification of hypotheses

Hypothesis 1: There is a statistically significant positive correlation between the level of innovation in an organization in the field of products and services and social interactions at work. Based on the results obtained, the hypothesis is rejected. This means that the level of innovation in an organization in the field of products and services is not statistically significantly associated with social interactions at work in the organization. And vice versa - the extent of social interactions at work is not related to the achievement of innovation in an organization in the field of products and services. The importance of social interaction is associated with the process of knowledge transfer within the organization. A greater extent of social interaction does not imply a higher level of innovation organization. Even though it is recognized that social interactions have an important role in the activation and transfer of

tacit knowledge, we cannot confirm the relationship between social interaction and innovation because of reported slight statistical significance

Hypothesis 2: There is a statistically significant positive correlation among involvement in the introduction of innovations in the organization and competencies achieved. The hypothesis cannot be completely accepted because it relates to the integration of involvement in introducing innovation and achieved business competencies. It may be noted that the inclusion of introducing innovation is not related to the degree of achievement of competences, as well as to achieve competence does not affect the inclusion of introducing innovation. Involvement in the introduction of innovations in the organization does not necessarily mean achieved higher competences - the level of involvement in the introduction of innovations depends on the functioning of the organization and opinions, how much innovation is at all necessary for the successful operation of the organization.

Hypothesis 3: There is a statistically significant negative correlation between job security and involvement in innovation. This hypothesis is rejected because the results obtained showed no statistical significant relationship, which confirms that the inclusion of introducing innovations associated with employment security as well as job security is not associated with involvement in innovation. This means that the mere job security does not affect the integration of employee innovation.

Hypothesis 4: There are statistically significant differences by sector of work in the innovation organizations in the field of products and services. When examining this hypothesis, we worked according to the sector to determine whether there are statistically significant differences in the level of innovation organizations in the field of products and services. In the innovation organizations in the field of products and services there exists ($F=22.66$, $p < .0001$) statistically significant differences by sector of work.

The hypothesis can be accepted in such extent that it relates to innovation organizations in the field of products and services and the differences between the public and the private sector and between the public sector and the private profit sector. We note that, given the presence of competition, the need for activation of tacit knowledge and transfer of knowledge occurred in the service of public sector organizations. However, the financing of the state public sector organizations that provide function services and protection in the case of inadequate management. Therefore, it is necessary to stimulate the

activation of knowledge and innovation organizations in this part of the public sector. According to our results we have found that there are statistically significant differences in the degree of innovation. The lowest estimated level of innovation was found at a group of officers, while teachers and doctors reach a higher level of innovation. Depending on the performance features that teachers and doctors require adaptation to day-to-day challenges.

Discussion and conclusion

In this study we examined the factors that have an impact on innovation in the organization following the existing professional literature. In doing so, we found that the extent of social interaction isn't associated with a significant degree of innovation. This means that simply by increasing the amount of social interaction we will not achieve higher levels of innovation, but should be more substantive to changes in the nature (or concrete organizational measures). It is, however, required to considerate: social interaction and even in social networks are, in our opinion significantly associated with the innovation process in organization, which concretely means that with the increasing volume of social interactions we increase the knowledge transfer between employees.

By studying the differences between occupational groups within the public sector, as well as the correlation of specific professional groups from the private sector, we have confirmed significant differences in the following factors: degree of innovation, the extent of social interaction and achieved competency.

Factors that are particularly characteristic for the public sector and distinguish the public sector from the private, are, according to the existing literature, job security, involvement in innovation, degree of innovation. We came to the conclusion, that these factors are not central to the issue of creativity and innovation management in organizations. The key factor is appropriate management which enables and encourages creativity and innovation in organization.

This leads us to the important conclusion that it is most important to train the management to encourage creativity and innovation among the employees and in the organization. We have to realize that the higher level of creativity and innovation in the public sector can lead to the development of organization, higher quality and streamlining organization. We point out the importance of an entrepreneurial mindset that we also need to take in the service of the public sector. We have focused on factors following existing literature, factors according to

which the private sector differs from the public sector in the field of innovation. According to the analysis of the research it can be concluded that the most important factor affecting innovation in public sector organizations is the appropriate management. Encouraging innovation in public sector organizations can also mean greater efficiency – for organizations and for the state, and therefore this should be a strategic direction of governance for managers of public organizations to gain adequate leadership skills that encourage innovation.

Resources

- Amabile, T. (1998). How to kill creativity? *Harvard Business Review*, Sep.– Oct.: 77–87.
- Augier, M., & Teece, D. J. (2005). An economics perspective on intellectual capital. In M. Bernard (Ed.), *Perspectives on intellectual capital*. Boston: *Butterworth-Heinemann*, 3-27.
- Baragheh, A., Rowley, J., & Sambrook, S. (2009), Towards a multidisciplinary definition of innovation, *Management Decision*, 47 (8), 1323-1339.
- Barsh, J. (2007). 'Innovation management: A conversation with Gary Hamel and Lowell Bryan', *The McKinsey Quarterly*, 3, 1-10.
- Seerenko, A., & Bontis, N. (2009). Global ranking of knowledge and intellectual capital academic journals. *Journal of Knowledge Management*, 13 (1).
- Chou, S. W., & He, M. Y. (2004). Knowledge management: the distinctive role of knowledge
- Csikszentmihalyi, M. (1996). *Creativity*. New York: *Harper Collins Publishers*.
- Drucker, P. F. (1993). *Post-Capitalist Society* New York: *Harper Business*.
- Drucker, P. F. (2001). *Managerski izzivi v 21. stoletju*. Ljubljana: *GV Založba*
- Elliot, A. J., & Dweck, C. S. (2007). *Handbook of competence and motivation*. New York, London: *Guilford*.
- Esterhuizen, D., Schutte, C.S.L., & du Toit, A.S.A., (2012). 'Knowledge creation process as critical enablers for innovation', *International Journal of Information Management*, 32, 4, 354-364.
- Fischer, M.M. (2001). Innovation, knowledge creation and system of innovation. *Annual Regional Review*, 35, 199-216.
- Granovetter, M. 1973. The strengts of weak ties. *American Journal of Sociology* 78, 1360–1380.

- Grant, R.M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17, 93-107.
- HEGESCO project (2009). Master Questionnaire. <http://www.hegesco.org>.
- Huang, S.K., & Wang, Y.,L. (2011). 'Entrepreneurial orientation, learning orientation and innovation in small and medium enterprises', *Procedia Social and Behavioural Sciences*, 24, 463-570.
- Johnson, B., & Lundvall, B. (1994). The Learning Economy. *Journal of Industry Studies*, 1(2).
- Kang, S. C., & Snell, S. A. (2009). Intellectual capital architectures and ambidextrous learning: A framework for human resource management. *Journal of Management Studies*, 46(1), 65-92.
- Karchegani, M.R., Sofian, S., & Amin, S.M. (2013). The relationship between intellectual capital and innovation: A review. *International Journal of Business and Management Studies*, 2(1): 561–581
- Katz, B. (2007). "Integration of project management processes with methodology to manage radical innovation project." M. Sc disertation University of Stelenbosch.
- Laster, H.M.M., Cassiolato, J.E., & Maciel, M.L. (2004). Systems of innovation for development in the knowledge era: An introduction. Proceedings of the first globelics academy, Ph.D. School on national systems of innovation and economic development, Lisbon, Portugal 25 May - 4 June 2004.
- Leonard, D. & Sensiper, S. 1998. The role of tacit knowledge in group innovation. *California Management Review*, 40 (3): 40-54.
- Lin, C. Y., & Edvinsson, L. (2011). National intellectual capital: A comparison of 40 countries (1 ed.).New York: *Springer*.
- Mytelka, L., & Farinelli, F. (2000). Local clusters, Innovation system and Sustained Competitiveness. Meeting: Local Productive Clusters and Innovations. Rio de Jeniero, September, 2000.
- Nelson, R. R., & Winter, S. G. (1982). An evolutionary theory of economic change. Harvard: *Harvard College*.
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company*. Oxford university press.
- Nonaka, I., Toyama, R., & Nagata A. (2000). A firm as a knowledge-creating entity: a new perspective on the theory of the firm. Oxford university press, *Industrial and corporate change*, 9 (1), 1-20.
- Nonaka, I., Toyama, R., & Konno, N. (2000). SECI, ba and leadership: a unified model of dynamic knowledge creation. *Long range planning*, 33 (1), 5-34.

- Rose, S., Shipp, S., Lal, B., & Stone, A. (2009). Frameworks for Measuring Innovation: Initial Approaches. In S. a. T. P. Institute (Ed.), 6. Washington DC: *Athena Alliance*.
- Spender, J.C. (1996). Making knowledge: The basis of dynamic theory of a firm. *Strategic Management Journal*, 17, 45-62.
- Sveiby, K. E. 1997. The new organizational wealth – measuring and managing knowledge-based assets. San Francisco: Berrett-Koehler.
- Timmons, J.A. 1994. *New Venture Creation*. Chicago: Richard D. Irwin Publishers.
- Sveiby, K. E. 2002. Collaborative climate and Effectiveness of Knowledge work – an empirical study. *Journal of Knowledge Management* 6(5).
- Svetlik, I. in Zupan N. 2009. Menedžment človeških virov. Ljubljana: UL FDV.
- Teece, D.F. (2000). Strategies for Managing Knowledge Assets: The Role of Firm Structure and Industrial Context. *Long Range Planning*, 33, 35-54.
- Vidic, F. (2013). Entrepreneurial orientation (EO) and knowledge creation (KC) *International Journal of Economic Sciences and Applied Research*, 6 (2), 103-124
- Von Krogh, G., Ichijo, K. in Nonaka, T. 2000. Enabling Knowledge Creation: How to unlock the Mystery of Tacit Knowledge and Release the Power of Innovation. Oxford: Oxford University Press.
- Wiklund, J. & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic management journal*, 7(24), 1307-1314.

WHY CORRUPTION MAY HAPPEN?: A CLASSROOM ACTION RESEARCH

Anita Maharani¹

| 67

Abstract

The Anti Corruption course is one of several ways of anti-corruption's campaign in Indonesia's higher education system. In terms of education, the Anti Corruption's curriculum were prepared and developed by Indonesia's ministry of education, but in practice it is possible for lecturers to creatively modify the way of delivering subjects to students. The purpose of this study is to explore student perspectives on what causes corruption. The researches itself is a classroom action research, and discuss through intepretative approach. Sampling technique were done through judgemental sampling. Respondents involved were students who attend the anti-corruption class year 2013 (n = 20). Data collection is done by using open question form in e-learning (elearning.paramadina.ac.id). Questions will lead to response of students about their perspectives of what causes corruption and as a results, students perspectives are then classified into three kinds of responses, they are internal causes of corruption, external and internal causes of corruption and external causes of corruption.

Keywords: cause, corruption, student

DOI: <http://dx.doi.org/10.12959/issn.1855-0541.IIASS-2014-no2-art04>

Introduction

Anti-corruption education in Indonesia's Higher Education (HE) is a must. This is considered important because HE consists of of late adolescent, that in the next two or three years after they graduate as Bachelor, will play his or her roles in making any decisions. That decisions, expected to be anti corruption.

In 2008, in the structure of Paramadina University's (www.paramadina.ac.id) curriculum, Anti Corruption is a must for all Departments. The essence of anti-corruption education in the curriculum is meant for higher educations student, that has no understanding of the

¹ Dr. Anita Maharani, Lecturer, Faculty of Economics and Business, Universitas Paramadina, Jakarta, Indonesia

background of corruption in present society, and why it consider as massive criminal action nowadays.

This course consists of 2 credits, and however the subject was design for Student Centered Learning (SCL) purpose, where students will not only learn in the classroom by listening or interact with lecturer or other student, but also may follow any variety of public lectures or Studium Generale held in Paramadina University (once in the on going subject in a Semester).

However, the most interesting part of this subject is that students have an obligation to visit and be part as attendees of Corruption Court's Event. This court, held by Indonesia's Corruption Court or *Tindak Pidana Korupsi* (TIPIKOR), and students will use any inspiration derive from cases students see when attending the court. The results, student has a compulsory to conduct research on corruption that exists in present society, and that study titled "Investigative Report". This "Investigative Report" is an event, and will be contested between classes of anti-corruption in the same time, between the semester meetings.

In the implementation of teaching and learning activities, each faculty is equipped with materials from anti-corruption course's coordinator. The materials consist with lecturer hand out materials, and syllabi. Although the implementation of the course is basically carried out in syllabi, it is possible for lecturers to improvise in the teaching methods.

In this study, the improvisation performed by the lecturer became the focus of anti-corruption, why? Because the character of students from each classes are different, and it is important for students to acquire the application of teaching methods that appropriate with character of students. This teaching methods aimed that students will get more from learning outcomes anti corruption.

However, classroom action research is possible to be done and applied during this implementation of anti corruption learning activities. The classroom action research carried out with the main objective, and this would be valuable so that the University can make an assessment about the practice of anti corruption learning activities. Practice learning activities take place between the lecturer and student, therefore the lecturer him/herself will conduct this research, and it will give the opportunity to lecturer to see his/her success in transferring their anti corruption knowledge to students.

With regard to the teaching of anti-corruption, it may be necessary for lecturer to carry out the assessment. The assessment itself will see how far transfer of knowledge from lecturer to students, in relation to the concept of anti-corruption. Knowledge transfer will form in short open questions that need to be answered by students; the students' will answer according their understanding of the overall material presented by the lecturer.

This classroom action research study was conducted in order to see how students from Semester 2012/2013 respond to the following open question: Why corruption may happen?

Research Questions

Based on the explanation above, the research question is, how the student responses with their knowledge, to questions on why corruption may happen.

Review of Literature

Corruption

The definition of corruption, according to Dearden (2003) is "being carried malfeasance for private purposes". Furthermore, Transparency (1999) mentions the definition of corruption is the act of giving or receiving an undue advantage, in the ordinary course of business which leads to a course of action violates a person's duty. Between both definitions there are similarities, the corruption however is associated with the position or business activity. Then, it can be concluded that, corruption has keyword abuse and violation.

Associated with corruption, according to history, corruption appears in countries that have following phenomenas:

- The state has a dominant role, the public sector plays a major role in the economy and the private sector play a minority role in the economy
- Producing countries in par public consumption goods and competition from the private sector was minimal
- Too many rules that regulate the government's economic
- Public officials have discretion in implementing these regulations
- There is no system of accountability and transparency that can suppress the potential for corrupt transactions, and there are no rules that define the rules of the game in the market (quoted from Arifianto, 2001)

Thus, corruption is an abuse or violation, may appear to have a tendency to give priority to State's public sector, without having strict rules.

The Causes of Corruption

Klitgaard, Maclean - Abaroa and Parris (2005), citing Ramirez Francisco Torrez, mentions several factors that cause corruption, there are the family, educational level, attitudes to work, business or ministry, the State and the international situation. A different opinion was expressed in Treisman (2000), related to factors that cause corruption, namely the religious factor. Religiosity, affect how one views his loyalty to the family than the public environment (Treisman, 2000). The influence of religion, in view of Treisman (2000) is also shown in the fact that the relationship between the governments of a country awakened to religious leaders. This opinion actually wants to raise an issue on how religion plays a supervisory function, through the clergy, and would denounce abuses committed by state officials. Between the opinions expressed Klitgaard et al (2005) and Treisman (2000) can be classified into two factors contributing to the corruption, they are the internal factors and external factors.

Anti-Corruption Learning Methods

The concept of learning in the lecture, referring to five following concepts: enhancing knowledge, recall and generate, display of facts and skills that can be applied, to understand and interpret reality in terms of the new (Farton, Dall'Alba and Beaty in Dichter, 2001). Thus, the purpose of learning is to give knowledge to students about corruption and why they should learn about anti corruption. This is assume that students are those who might not know the real conditions, will become aware of corruption, may connect their knowledge to what is happen recently and apply to what is known to reality.

To realize the concept of learning, students needs to go through the designed learning method, which is applied by lecturers in the classroom to all students. Learning methods at the level of the course may be done through the following methods: lecturing, group discussions, individual presentations, assignments, seminars, workshops, conferences, brainstorming, role play, and case studies (Sajjad, 2010). Thus, the methods used in teaching and learning activities in the course have a variety to choose an alternative by lectures.

Anti-Corruption Education

Education is a fundamental rights for every human being, and every individual is entitled to proper education, especially for primary and secondary education. In one narrative issued by the Indonesia's National Development Planning Agency, the government should pursue the expansion and equity in educational opportunities, high quality for all Indonesian people, because the direction of education is to develop the quality of human resources in a educated manner (downloaded from www.bappenas.go.id, 2013). Thus, education is a human right and a target government to create equity for the people to get an education.

Anti-corruption education is one of the Indonesia's Director General of Higher Education efforts in the formation of national character. In relations with the formation of national character, the Anti-Corruption education at the college level aimed to provide sufficient knowledge about the ins and outs as well as the eradication of corruption and instill the values of anti-corruption.

The long-term goal is to develop an anti-corruption culture among students and encourage students to participate actively in the efforts to eradicate corruption in Indonesia (downloaded from acch.kpk.go.id, 2013). Thus, in the context of educational efforts, the goal is for the formation of national character, an anti-corruption education is considered important to be held in Indonesia's higher education or universities, because students will be the future leaders. The development of anti-corruption values is possible to be done on a scale of college or universities, even though this type of education possible to be started from family level or early education.

The implementation's mechanism of anti-corruption education in higher education is done by lecture. Lecturer will need to teach Anti-Corruption for 14 -16 times face-to-face meetings in each semester. Half of the lecture schedule is filled out with material provisions from chapter 1 until chapter 8 from Anti Corruption book provided from the University to lecturer. The other half can be filled with: general lectures from the selected speakers on how to eradicate corruption, case studies, screening and analysis, also students will be given task on doing investigation, writing observation tasks, papers, the task of prototyping technologies associated with the eradication of corruption, and other tasks that may be adapted to the characteristics of the Higher Education specifically (downloaded from acch.kpk.go.id, 2013). However the most important thing is that the anti-corruption lectures aimed at the end to make students participate actively, so that the implementation of class is done in a creative and interactive way.

Respondents

Type of sampling technique is a non-probability; the kind of sampling intake is judgmental sampling. This type of sampling is considered relevant, because only participants who attend a course of lectures on anti-corruption Semester 2012/2013, which is held every Friday at 15:30 to 17:00 pm or 2 credits.

The population of participants in the anti-corruption courses Semester 2012/2013 was 180 students. While the study sample was 31 people, although in practice only 20 people responded to questions in a timely schedule for the collection of answers (between 15 to 22 March 2013). Students who responded came from several directions, as follows: student of Management Department (6), student of Philosophy of Religion Department (2), student of Communication Studies Department (4 people), student of International Relations Department (4 people), student of Information Technology Department (4 people). Students come from the class of 2010 (10 people) and the class of 2011 (10 people).

Research Methods, Data Collection and Analysis

This study is classified as classroom action research. The classroom action research measures according Tomal (2003) has the distinction of qualitative and quantitative research, and the action research emphasis was on the process of solving problems and making progress on the problems faced by students. In classroom action research, there are following characteristics (Suparno, 2008):

- Can use numbers and not, is determined by the purpose of the study
- Requires cooperation between researchers, educators, consultants and administration
- Research without action has the characteristics of a hypothesis
- Research can use statistical measures and can also not use, depending on the purpose of the study
- Research will give brief narrative action
- Using a wide variety of interventions to address the issues
- Research model depends on the purpose
- The purpose or focus of the research is to solve problems and make
- Philosophically is that knowledge is a process, changing and evolving

This research uses data mining method with a data collection document. This method is accomplished by means of lecturer give quizzes to students through e-learning and the response of the students also received through e-learning.

Data obtained require accuracy, credibility and reliability. In classroom action research, accurate data is called if the data are taken really shows and create a true picture of the reality under study. Furthermore, the data obtained require credible if the data is trustworthy and reliable. In this action research involving the use of theoretical validity of the researchers' ability to report symptoms studied (Suparno, 2008).

Thus, the following activities undertaken by researchers:

- Researchers as lecturer have had interactions with students during seven meetings (of the sixteen meetings) or on weekends when the implementation of Mid-Semester Exam
- Researchers as lecturer provide an open question, and the guidelines of question explained what is the mechanism that may thorough by students in order to respond to questions with a personal understanding or not to write theory
- Researchers as lecturer documented the entire response from the students during the collecting period between March 15 to 22, 2013. During one week of data collection, of 31 students, 21 students who responded

Statements below is one of students response

"Corruption can occur due to, 1) Confidence and low self-confidence and false manifest in behaviors such as cheating, look for shortcuts. 2) low self-control, what one wants in Indonesia will mostly involve the lives of others, is the closest family. To achieve adequacy of the material, the individual will lose self-control and choose the graft, 3) perception of the process have been made erroneously that it becomes negative, causing a lot of people do not like the process and select the shortcut to corruption"

Research procedures

This action research follows the implementation of the scheme as follows (Johnson, 2005; Mills, 2007; Tomal, 2003): ask questions, identify problems, and determine the area of research. In this case the researchers wanted to examine the students' responses to question.

The thing that is interesting is that the lecturer want to know how the questions are actually a part of a student self-evaluation. Issues in

education who want work at more is how students can capture the phenomenon experienced in daily life and associate with the theme presented in the lecture.

Determine data collections

In this case the researcher wants to collect statements from students, such as writing, collecting student responses through e-learning for a one-time chance of collecting.

Data collection dan data analysis

In this activity the researchers collected data by looking at the data pool from e-learning, researchers may draw conclusions related to the research questions

Planning of actions

In this activity the results of the study will be followed by an action plan that will be used in advancing the issues

Further implementing action plans

In this activity, the study will be continued with follow-up and action plan

Evaluation and follow-up plan

In this activity, the researcher will have to decide whether the result of study will proceed with evaluation planning and evaluations follow-up.

Findings

In this section, the researcher will present findings obtained from the data collection. Here are responses given by the student.

However, quoting Hamzah (the CSRC, 2011), he stated that the cause of corruption, particularly in Indonesia are as follows:

Lack of civil servants' salaries compared to the increased of needs. Cultural background or the culture of Indonesia, in which it is the source or cause that widespread the corruption management and the government control are less effective and less efficient, which then provide the opportunity for corruption. (And) modernization that encourage corruption.

Thus, there are a few key words when looking at the causes of corruption, they are: material issues, culture, management, control management, modernization. Of the four key words, it can be underlined that there are two factors that cause corruption, the internal factors and

external factors. In CRSC (2011) stated that internal factors are the cause of such corruption, the perception of corruption, morality and integrity of the individual. While external factors are the cause of such corruption such as poor legal system, poor political system, poor cultural institutions, and poor structure of the social system, poor education system and poor economic system. (CSRC, 2011). Therefore, it can be concluded that the two factors above are causes that need to be understood in order to avoid or minimize the occurrence of corruption in the environment. Based on the description of the causes of corruption, the response generated by the student consists of several themes, as described below.

The Causes of Corruption

This section aimed to describe the respondents' opinions on the causes of corruption from the perspective of a student. Previously, there is a note from Transparency International (TI), their study about Corruption Perception released in 2007, put the nepotism and favoritism as the first rank of corruption in a country, followed by the misuse and embezzlement of public funds. Thus, corruption has a detrimental form a nation and as a result of corruption is counterproductive and even destructive.

Furthermore, the results of a study conducted by the Royal Government of Buthan (2009), in a study of 332 respondents, results obtained regarding the causes of corruption, as follows:

- a. Inefficient service delivery
- b. Lengthy procedures
- c. Lack of information
- d. Weak leadership
- e. No legal action
- f. Accountability low
- g. Lack of incentives
- h. Low salaries
- i. The need for money
- j. The low social ethics
- k. Self centered
- l. The cost of corruption is low
- m. Society tolerate acts of corruption
- n. Low morale
- o. Degeneration of social values
- p. Only a small number of groups of people who would do.

Based on the results of the above study, it can be concluded that although previously state that factors causing corruption is due to two

main points namely, internal and external, but in the explanations corruption occur because of the absence of strong values and ethics in society. Values and ethics in society however is important, because ethics and values is associated with public confidence. The relationship between values and ethics to public confidence is the key to the success of the establishment of the credibility of stakeholders, and the community will provide support to the stakeholders, as described by Nadler (downloaded from www.scu.edu, 2013). Thus, values and ethics in society need to be built and nurtured in order to create its own integrity.

Of questions that was appear in e-learning, we have collected 19 answers from a total of 31 students who attended the lectures as a student response, and the response from the nineteenth responses can be classified into three, namely: a) students who responded corruption can occur due to internal factors, b) students who responded corruption can occur due to external factors, c) students who responded corruption can occur due to internal and external factors.

Corruption Happen Because of Internal Factors

According to fourteen students, lifestyle is considered to be the causes of corruption, and it is due to internal factors, which are considered as the cause of corruption. The factors referred to internal factors such as student are, lifestyle, ambitions or goals, needs and desires, the satisfaction level of the individual, the moral aspect of the individual's personality.

An internal factor, according the CRSC (2011), among others is the perception of corruption, morality and integrity of the individual. Perceptions of corruption, related to how the individual perspective of corruption, while the morality and integrity of individual deals with understanding and internalization of the values within the individual.

Thus, the internal factors that were addressed by students may suitable with the the CRSC (2012), and then the factors expressed by the students can be sorted as follows.

Perception of corruption is, lifestyle and ambitions or goals, while morality and integrity are the needs and desires of the individual, the individual's satisfaction level, the moral aspect of the individual's personality

Corruption Happen Because of External Factors

According to two students, the causes of corruption due to environmental factors, as such, external factors are the cause of which is then internalized into the individual's personal habits. External factors, according to students, are environmental factors and educational factors.

In the CSRC (2012), the external factors are the cause of corruption among other systems and legal structures, political, corporate culture, systems and social structures, and the education system.

Thus, external factors that were addressed by students suitable with two among five factors if according with the CRSC (2012), and then the factors expressed by the students can be sorted as follows.

System and social structure are environmental factors, while education is the education system.

Corruption Happen Because of Internan and External Factors

According to four other students, they believe that corruption happen because of the combination both internal and external factor. Factors expressed as internal and external factors according to the the students, are as follow.

The internal factors are ourselves, lifestyle, habits, education, faith, self-control, while the external factors are the rules of the institution, social structure and influence the environment.

In the CSRC (2012) it was explained that the root causes of corruption can be a combination of internal and external factors, but as quoted from Sarlito W. Sarwono (the CSRC, 2012) there are two things that can be observed, they are: the encouragement of the self and the second is the self-stimulation from the outside.

It can be concluded that corruption can occur due to the pull energy of the inside and outside of the individual. Appeal comes from within the individual is referred to as internal factors, while the appeal comes from outside the individual is referred to as external factors. However, if the individual has strong values in himself, the internal and external factors cannot encourage someone to commit acts of corruption.

Discussions

Osuagwu (2012) have views on the conceptualization of corruption as a change from something good into something wrong, or of something that is commendable proved into licentious acts. Thus, we can conclude the act of corruption actually a decline in the morality of an act. Previously, Ashforth, Gioia, Robinson and Trevino (2008) stated that the corruption associated with the individuals in the organization and the organization itself. Thus, the actual corruption could also be interpreted as a close relationship between the individual and the organization, meaning it contains the interaction between the individual and other individuals. Then Ashforth et al (2008) said that corruption is associated with the organization as an entity; as such organizations have a role in the presence or absence of corruption.

This research is motivated by the need to see how students who took a course of anti-corruption responses the factors that lead to corruption, from the standpoint of the student. The goal is to see how students perform a self-evaluation of these factors, and based on self-evaluation it is expected to be part of the individual's knowledge, and students are expected to have awareness of how the appearance of corruption and can avoid it in the future, as the purpose of the anti-corruption lectures were used as a compulsory subject at the University of Paramadina.

Response provided students with respect to the question can be classified into three. Of the three classifications, from the nineteenth students who responded, fourteen of which respond to internal factors as the cause of corruption. Thus, students evaluate that internal factors such as lifestyle, ambitions or goals, needs and desires, the satisfaction level of the individual; the moral aspect of the individual's personality is the cause of corruption. The student responses in line with the concept of internal factors contained in CRSC (2011), which states that the internal factors are the cause of corruption among other perceptions of corruption, morality and integrity of the individual. Thus, students have early awareness that the cause of the corruption is because of the encouragement that comes from within oneself.

Among nineteenth students who responded on the causes of corruption, four of which stated that the internal and external factors was the one as the cause. Thus, the student is responding to internal factors themselves, lifestyle, habits, education, faith, self-control, while the external factors are the rules of the institution, social structure and influence the environment. This response is in line with the opinion of W. Sarlito Sarwono (CSRC, 2012) which states that there are two things that can be observed with respect to the causes of corruption, namely:

the encouragement of the self and the second is the self-stimulation from the outside. Thus, students have early awareness that the cause of corruption due to the encouragement and stimulation, from inside and outside the individual that attract to each other.

Then, among the nineteenth students who responded on the causes of corruption, two students stated that corruption could occur due to causes outside themselves or external factors. Thus, students respond to environmental factors, internal factors and educational factors. This response is two of the five external factors that are written in the CSRC (2012) mentions that the external factors are the cause of corruption among other systems and legal structures, political, corporate culture, systems and social structures, and the education system. Thus, students have early awareness that the cause of the corruption is due to an energy pull from outside the individual.

Conclusions

Based on the above it can be concluded that the students gave responses regarding the question, " Why corruption may happen? ". This question is open, and although not written request to mention the causes, but the response of all students mentioned the factors that cause corruption.

The factors causing corruption responded by students can be classified into three groups, namely: a group of students who stated that corruption can occur due to internal factors; groups of students who stated that corruption can occur due to external factors, and the group of students who stated that corruption can occur due to internal and external factors. The responses of these three groups, the first group who stated that corruption could occur due to internal factors responded most.

Thus, the majority of students who participate have the awareness that corruption can occur due to factors originating from within the individual. Furthermore, the amount of which many though not as much as the first group is owned by a group of students who responded that corruption can occur due to internal and external factors, so there are some students who have the view that corruption is because the inside and outside of the individual.

Even so, there are two different groups responded, and the response of the student groups for corruption due to external factors is the least response. Thus, there are students who have an awareness that corruption can occur due to factors outside themselves individuals.

References

Journal

- Arifianto, Alexander. (2001). Corruption in Indonesia: Causes, History, Impacts and Possible Cures. Downloaded from <http://people.brandeis.edu/~cerbil/AlexCorruption.pdf>
- Ashforth, B.E., Gioia, D.A., Robinson, S.L. and Trevino, L.K. (2008), "Re-viewing Organizational Corruption", *Academy of Management Review*, Vol. 33 No. 3, pp.670-684.
- CSRC. (2011). *Pendidikan Antikorupsi di Perguruan Tinggi*. Editor: Karlina Helmanita and Sukron Kamil. Publisher: Center for Study of Religion and Culture (CSRC). ISBN 979-3531-16-9
- Dearden, Stephen. (2003). The Challenge to Corruption and the International Business Environment. In *Corruption and Governance in Asia*. Publisher: Palgrave-Macmillan. Great Britain
- F. Marton, G. Dall'Alba and E. Beaty, Conceptions of learning, *Int. J. Educ. Res.*, 19, 3 (1993) pp. 277±300. In Ditcher, Anne K. 2001. *Effective Teaching and Learning in Higher Education, With Particular Reference to the Undergraduate Education of Professional Engineers*. *Int. Journal Engineering*. Vol 17, No. 1, pp 24 – 29. Publisher: TEMPUS PUBLICATION
- Klitgaard, Robert, Ronald Maclean-Abaroa dan H. Lindsey Parris. (2005). *Penuntun Pemberantasan Korupsi dalam Pemerintahan Daerah*. Page 37. Publisher: Penerbit Obor. Jakarta
- Nadler, Judy. (2013). *Creating a Culture of Ethics in the Public Sector*. www.scu.edu
- Osuagwu, Linus. (2012). Conceptualization of Corruption in Business Organizations. *American International Journal of Contemporary Research*. Centre for Promoting Ideas, USA. ISSN 2162-139X (Print), ISSN 2162-142X (Online)
- Sajjad, Shahida. (2010). Effective Teaching Methods at Higher Education Level, *Pakistan Journal of Special Education*, vol. 11, 2010. pp 29 –43.
- Suparno, Paul. (2008). *Riset Tindakan Untuk Pendidikan*. Publisher: PT Grasindo. IKAPI. Jakarta
- Transparency International (1999) *Fighting corruption: what remains to be done at EU level: Working Paper*. In *The Challenge to Corruption and the International Business Environment*. Part of book chapter *Corruption and Governance in Asia*. Publisher: Palgrave-Macmillan. Great Britain
- Tomal, Daniel R. (2003). *Action Research for Educators*. Scarecrow Press, Inc. United Kingdom
- Treisman, Daniel. (2000). The Causes of Corruption: A Cross National Study. *Journal of Public Economics*, 76, 3, Juni 2000, pp 399 - 457

ANALYSIS OF INFLUENCES ON BUYER-SUPPLIER NEGOTIATION

Božidar Lenarčič¹, Franc Brcar²

Abstract

The purpose of the article is to analyze negotiation between buyers and suppliers and to identify factors that influence the direction and result of negotiation. It is important that buyers and suppliers preserve the partnership despite negotiations. In the theoretical part of the study relevant literature is examined. The empirical part contains two methods (1) a qualitative method: three interviews with buyers (purchasing agents in one organization) and three interviews with suppliers, and (2) a quantitative method: a survey with twenty buyers and twenty suppliers. The result of the qualitative analysis was the basis for creating the questionnaire, which was used for quantitative analysis. Results of the quantitative analysis were factors that influence buyer-supplier negotiation. Results were calculated using chi-square tests and Wilcoxon rank-sum tests. Negotiation is an interactive process between two or more parties wishing to obtain a favorable outcome. The entire society can obtain a great deal regarding mutual understanding and conflicts resolutions as well as achieving the objectives in negotiation at the same time. The research is unique in terms of the combination of methods used and obtaining balanced data between buyers and suppliers.

Keywords: Supply Chain, Buyer, Supplier, Negotiation, Relationships.

DOI: <http://dx.doi.org/10.12959/issn.1855-0541.IIASS-2014-no2-art05>

Introduction

High market competitiveness is the result of globalization. Relentless struggle for the market, greater number of offers over demand needs, as well as increasingly more demanding customer needs force

¹ Božidar Lenarčič is a Master's degree student at the Faculty of Organisation Studies Novo mesto (bozidar.lenarctic (at) gmail.com)

² Franc Brcar, MSc. is a Lecturer and a PhD student at the Faculty of Organisation Studies Novo mesto (franc.brcar (at) fos.unm.si)

organizations to gain competitive advantage and business excellence, thus, providing added value to customers. We need good relationships between buyers and suppliers for overall growth and adaptation to market conditions. Only very experienced negotiators use the following simultaneously: (1) negotiation skills, (2) mindset to achieve mutual goals, and (3) avoiding fatal errors. Only good relationships, effective marketing communication, knowledge sharing, and innovation provide the tracking trends of development. Joint endeavors require right decisions during negotiations. The negotiator during the negotiations process is the most important factor, namely because the efficiency and effectiveness of the negotiations is solely dependent on the negotiator. Negotiation skills affect reactions in certain negotiating situations that as a result affect the outcome of the negotiations.

Efficiency and effectiveness of organizations is dependent on many factors of which negotiation is one of them. Conflicts arise during negotiations as business partners have different interests and goals. Negotiations are indispensable in relation to the buyer–supplier relationship. Negotiations completed with the sense of success are possible with a great deal of knowledge of negotiations and practical experiences. However, we have conflict of interests during negotiations. During the negotiation process both parties have a goal and that is a good that they both want and the good is not available in sufficient quantity. When preparing for negotiations thoughts are on triumph, that we are better than our opponent, and that we will convince the opposing partner that we are right. Notwithstanding, the finest negotiators attempt to: (1) understand the opposing partner, (2) find long–term solutions, and (3) find solutions acceptable for both sides. Common goals will be compromised, if one party insists on its interests alone and very often, the other partner ends the relation in such situations. We can conclude that relations between buyers and suppliers are not compromised, if goals of negotiations are in the common interest for both business partners. Negotiations are the process of discovering common goals for the buyer and supplier. The overarching goal is to identify influencing factors on the course and outcome (i.e. result) of negotiations. Organizations are capable in obtaining information from identified factors on how to preserve the relationship with a partner. The goal of this research also is to remind society that negotiation between business partners is an iterative process through which both sides want a favorable outcome. The entire society can obtain the knowledge about mutual understanding, resolving conflict, and achieving the objectives of negotiations. In this study, we identified significant factors influencing the results of negotiations with qualitative analysis of interviews. Factors identified were the basis for the quantitative instrument (i.e. creating the

survey) and analysis. Data were analyzed with statistics and interpreted in the second part of the article. The research is unique in three ways: (1) two methods are integrated – qualitative and quantitative, (2) balanced data collection of buyers and suppliers, and (3) conceptual originality. We did not find similar research with similar topics in the Slovenian area. The research was conducted in one organization and their suppliers. This also is the limitation of the research.

Literature review

Effective and efficient long-term business demands excellent relationships between buyers and suppliers. Excellent relationships have to be based on trust, loyalty, common innovative business, sharing of information, and so on. The global business has allowed continuing opportunities and challenges as well as selection of different business partners. Byrne, Heavey, Blake, and Liston (2013: 1036) propose a constructive and effective method for business partners' selection. The selection is a very important first step to building a successful relationship between business partners. The method is focused on after-sales costs. The model contains face-to-face (F2F) communication and a cost model. The model also includes direct and indirect costs with the aim to handle all kinds of after-sales costs. The study shows very successful negotiations, where the benefits are significant for both business partners.

The selection of competent suppliers is important throughout all processes. All suppliers have a chance to upgrade the business collaboration to a partnership. The traditional selection of a supplier includes a definition of the selection criteria that will be used, then determining the qualification of potential suppliers and for final determination the reverse auctions (RAs) method is typically used. The RAs model also is useful for initial cutting of prices. The success of the RAs method, which is the selection of partners-suppliers for after-sale activities of Dell's computers, was presented by Byrne, Heavey, Blake, and Liston (2013:1033–1035). The results of the research study represents increase efficiency of after-sale activities and reduced cost of after-sale activities in Europe, Middle-East, and Africa. Based on these results, company Dell added additional measures that decreased after-sale costs.

Jiun-Sheng and Yun-Chi (2012: 94–95) noted that good and solid relations between buyer and supplier increase opportunities for new business. Suppliers can influence buyers with financial and promotional incentives, for example with education, consultations, assistance, problem solving, and so forth. Buyers want to collaborate with

competitive suppliers that are recognized for their quality and excellence in all areas. The organization has to be differentiated from competitors in a competitive market. The organization has to collaborate with suppliers and consumers during the first phase of a product's development. Common decisions and solid partnerships are essential. The organization has to integrate suppliers and other participants into the supply chain. Good relationships are not natural or self-evident and have to be systematically developed by all business partners.

Srivastava et al. (1998 in Jiun-Sheng and Yun-Chi, 2012: 89) state that negotiating relations contain trust, commitment, dependence, and effective communication. The relationship between the buyer and supplier are influenced by the negotiating process. The relationships can be changed as a result of negotiations and our opinion about the supplier can change. The negotiating process is delicate and carelessness can cause poor relations and bad results. Lumineau and Henderson (2012: 391) summarized in their study how relational activities influence the behavior of the opposing partner, negative decision-making, and avoidance of uncomfortable situations.

The duration of the negotiation is dependent on the experience and expertise of the negotiators (Simonelli, 2010: 166–168). The duration is longer if inexperienced negotiators are involved. The negotiation under force is short if one party has to accept all imposed conditions. E-negotiations also are typically short. Very long negotiations contain a great deal of compromises that are not guided correctly, questions are repeatedly being asked for the purpose of acquiring new negotiating space. A similar tactic is to delay or shorten the negotiation. The goal of shortening the negotiations is to force an early decision.

The negotiation outcome could be positive, negative or somewhere in the middle. It is rare that the opposing partner will accept all our conditions. Good negotiators are capable of accepting negative answers and also have the ability to say 'no' as well. Thomas, Thomas, Manrodt and Rutner (2013: 105–106) conclude that negotiations are the significant element of relationship between buyers and suppliers and the interdependence is the important part of understanding their relationship. Two strategies of negotiation between buyers and suppliers are explained in their research: (1) 'win-win', and (2) 'win-lose'. Both strategies are a part of the negotiation preparation and can be changed during the negotiation process. At some point it has to change, depending on the actual situation. The possibility of success without in-depth preparation is small. The strategy 'win-lose' decreases interest in communication and transfer of knowledge between the buyer and

supplier, with the result being poor relations and performance. The positive influence on long-term relations using the 'win-win' strategy is confirmed by their research. Individual and common goals can be realized with mutual interdependence and the 'win-win' negotiation strategy. The interdependence allows transfer of positive action results of one business partner to another. On the contrary, the 'win-lose' strategy causes negative emotions. Estranged relations are the result of such a strategy. The 'win-lose' negotiating strategy is recommended for short-term collaboration, for one deal only, where the interdependence is at a low level.

If buyers are united, the interdependence exists on the buyers' side. The goal of united buyers is achieving better prices. The negotiating position of the union is better. For such type of negotiations the prerequisite is an adequate information system. The basic principle is common collection of demands, where the quantities of demands are essential. Joint actions, trust and common decisions are important for successful interdependence (Bahinipati and Deschmukh, 2012: 523):

- Collaborations are mutual agreements based on trust, cooperation, shared risks and investments.
- E-market enhances transactions capability by identifying and selecting new suppliers, establishing prices for products, components and materials, and aligning procurement of materials/components from suppliers.
- E-market enhances the collaborative capability by communicating delivery request to suppliers, communicating manufacturing requirements to suppliers, and managing and communicating engineering changes.
- Use of e-market, internet and other IT infrastructure based systems enhances the speed of operation to decrease cycle time.
- Enterprises increase customer satisfaction through better visibility of the procurement process and reduction of errors.
- The partnering enterprises must have good cost information, which is critical for selecting manufacturing locations as well as developing plans for procurement.
- This relationship incorporates more than shared information and a focus on supply chain cost, such as supply chain planning strategies and schemes among partners.
- Better management control can be realized due to embedded business schemes in the procurement system by encouraging outsourcing and allowing enterprises to engage in e-business to have more control of their operations by sharing customer-specific information.

- Cost saving can be realized through less costly and optimized processes for procurement and lower cost, indirect goods by use of e-market.

Masschelein, Cardinaels, and Van den Abbeele (2012: 953) argue that “buyers’ profit is bigger than sellers”. Buyers tend to be more experienced negotiating managers than sellers, where they have greater negotiating power. Thus, suppliers very often are not motivated. This is the reason why suppliers are unsuccessful and do not have the ability to be convincible.

The most important topic during negotiation is price. If the buying-selling quantity increases, prices normally decrease, consequently, cost per unit decreases if we take into account that other production costs and manipulation costs remain constant. The negotiating interaction between the buyer and supplier protects the interests of both parties. The buyer wants to reach the best possible offer from the supplier and in-turn the supplier with the best offer in hand wants to influence the buyer’s decision. Cheng (2011: 602–604) introduced a programed auction model for the global market, where the buyer can submit an inquiry to the global market. Electronic auction allows bidding between the buyer and potential suppliers via requests for quotations (RFQ). The RFQs contain characteristics, quantities, delivery times, and so on. Buyers invite potential suppliers and the auction is closed when a supplier is chosen. The prices are open or closed for all participants depending on the auction type. This type of electronic auction is appropriate for standardized demands.

Moosmayer, Schuppar, and Siems (2012: 99) stress that “sellers normally vigorously defend initially defined price as buyers”. Usually, the seller’s price margin is smaller than the buyer’s. If we want to conclude an agreement, the buyer’s and supplier’s margin have to overlap.

Martinez-de-Albeniz and Simchi-Levi (2012: 408) argue that negotiating process of quantity and price between buyer and supplier is complex. Buyers want the best price at sufficient quantities. The interest of suppliers is often opposite. The price of the product is dependent of the whole supply chain and has an effect on the product’s price directly and on the outcomes of business i.e. profit. Typically, the first order is the smallest order and subsequent orders tend to be larger. Increase in quantities is a sufficient argument to begin the negotiation process again.

Detailed information about supplier's costs can improve a buyer's negotiating position, and vice versa. Such information may cause a critical response by the supplier. The supplier is forced to believe in the buyer's honesty. Supplier costs to the buyer are more easily available than the costs of the buyer to the supplier. A buyer can obtain costs by submitting an inquiry to the market and thus can obtain a competitive-reference offer and as a result the buyer obtains the price of material and cost of the supplier. Masschelein, Cardinaels, and Van den Abbeele (2012: 953) note that buyers can obtain exact costs that buyers can use as leverage during negotiations. In essence, having accurate data can improve relations between the buyer and supplier. Windolph and Moeller (2012: 57) note the Open Book Accounting (OBA) method. This system is open and contains all costs of buyers and suppliers. The goal of this system is to improve the cost-effectiveness of buyers and suppliers. The advantage of this method is cost management and mutual trust. On the other hand, all details, costs, profit have to be disclosed.

Based on the review of relevant literature and our knowledge about the researched area, eight hypotheses were defined for quantitative analysis:

H1: Buyers have better negotiation experiences than suppliers.

H2: Buyers and suppliers emphasize the importance of preparation before negotiations.

H3: Buyers have greater negotiation position (power) than suppliers.

H4: The price is the most important negotiating factor for buyers and suppliers.

H5: The length of the negotiation influences the result of negotiations.

H6: Buyers and suppliers are of the opinion that the negotiation process influences the relationship between them.

H7: Buyers and suppliers are of the opinion that the negotiation process positively influences their interpersonal relationship.

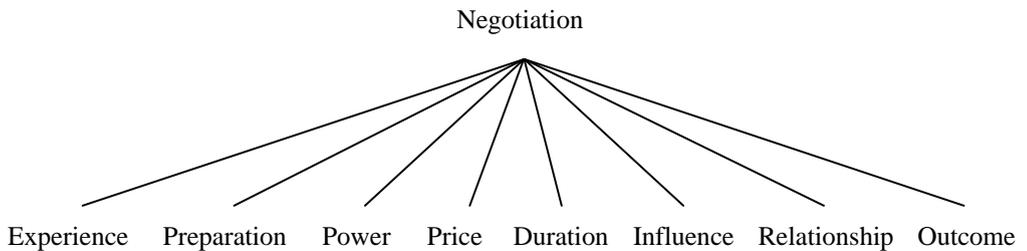
H8: Buyers are more satisfied with the negotiation outcomes (result) compared to suppliers.

Qualitative method

We collected qualitative data using interviews. Data were analyzed using seven steps. We conducted three interviews with purchasing agents in one organization. We also conducted three interviews with three sales agents from three different supplier organizations. All three supplying organizations were considered important suppliers to the main organization for assembly parts to production. We prepared in advance guided questions for semi-structured interviews. All agents regularly participated in negotiations between buyers and suppliers. Interviews were organized in isolated rooms in a quiet and friendly environment.

The typical duration of the interviews was between 30 to 45 minutes. Transcripts were made simultaneously. All six interviews were consolidated and merged into one single combined transcript. Consolidation of text means removing irrelevant text, combining similar text and writing concluding remarks. We defined six coding units. All units were derived directly from the six guided questions. We selected most important phrases (words and sentences) from the text. Categories were defined by combining similar phrases in the next step. Finally, we defined final categories and relations between them. The research model (Figure 1) combines categories and relations. The most important result of the qualitative analysis was determining the survey questions, which was directly derived from the research model.

Figure 1: The research model



Categories and relations were the basis of the survey questionnaire. Questions were also derived from results of the interviews conducted by the agents. The final questionnaire contains nine questions, with eight nominal variables and one ordinal variable. The first question concerns the role of the respondent, where the possible answer is BUYER or SUPPLIER. Other questions are:

- ⤴ Evaluate your negotiating experiences. (GOOD/BAD)
- ⤴ Do you prepare for negotiations in advance? (YES/NO)
- ⤴ What is your negotiating position (power)? (SUPERIOR/INFERIOR)
- ⤴ Is the price the most important factor in negotiations? (YES/NO)
- ⤴ Does the duration of the negotiation influence the result of the negotiation? (YES/NO)
- ⤴ Does the negotiation have an influence on the relationship between buyer and supplier? (YES/NO)
- ⤴ How is the relationship between the buyer and supplier influenced by the negotiation? (POSITIVE/NEGATIVE)
- ⤴ How are you satisfied with the negotiation results? (-3: COMPLETELY UNSATISFIED, -2: UNSATISFIED, -1: PARTIALLY UNSATISFIED, 0: NEUTRAL, 1: PARTIALLY SATISFIED, 2: SATISFIED, 3: VERY SATISFIED)

Quantitative method

The basis for the quantitative method was the research model based on the qualitative analysis. The questionnaire was derived from the model. We had 50 respondents: 25 buyer agents and 25 supplier agents. Data collected were balanced between buyers and suppliers. All respondents received a cover letter with a description regarding the goal of the survey, and complete anonymity was guaranteed for all participants. The survey was conducted in January 2013. Responses were collected in seven days.

Data were analyzed by Pearson’s chi-square test and Wilcoxon rank-sum test using R statistical software. Results of chi-square tests are presented below in tables with observed frequencies and odds ratios, which represent relations between buyers and suppliers. Odds ratios have to be greater than 1.

Results and discussion

Results of Pearson’s chi-square tests are summarized in Table 1. We have seven questions with two answers possible. The independent variable is respondents’ type – buyer or supplier – in all cases. The table shows Pearson’s chi-square tests with Yates’s continuity correction and Fisher’s exact tests.

Question	Answer	Supplier	Buyer	Yates χ^2			Fisher χ^2			
				χ^2	df	p	Δ	p	CI _{min}	CI _{max}
1) Experience	good	16	23	4.2	1	0.04	6.5	0.04	0.01	0.92
	bad	9	2							
2) Preparation	yes	21	21	0	1	1	1	1	0.16	6.14
	no	4	4							
3) Power	superior	0	21	33	1	< 0.001	0	< 0.001	0	0.05
	inferior	25	4							
4) Price	yes	12	10	0.08	1	0.78	1.38	0.78	0.39	4.92
	no	13	15							
5) Duration	yes	19	15	0.83	1	0.36	2.08	0.36	0.54	8.71
	no	6	10							
6) Influence	yes	23	22	0	1	1	1.55	1	0.16	20.28
	no	2	3							
7) Relationship	positive	9	2	4.2	1	0.04	6.4	0.037	1.09	66.97
	negative	16	23							

Notes. Δ odds ratio.

Comparison of negotiation experiences between buyers and suppliers

Pearson's chi-square test with Yates's continuity correction is significant: $\chi^2(1) = 4.20$; $p = 0.04$. Fisher's exact test is also significant ($p = 0.04$): the odds ratio is 6.5, with 95% confidence interval of 0.01 and 0.92, where the variables are dependent. We can accept the alternative hypothesis H1: buyers have better negotiation experiences than suppliers. The null hypothesis is rejected.

The actual frequency of suppliers and buyers with good or bad negotiation experiences can be determined through the odds ratio or the ratio between buyers and suppliers, between good and bad negotiation experiences. The odds ration calculated was 6.5 and as such, we can conclude that buyers had 6.5 times better negotiation experience than suppliers.

The result is significant. Buyers were more experienced as was expected and the typical initiator was not the supplier. As the results show, negotiation started with the buyer. We believe that it is rare that negotiations start with supplier initiatives as this would mean poorer conditions for the buyer and consequently searching for a new supplier. As such, whenever one is in negotiations as a buyer, we would want more negotiations with the supplier as the results of our research show that buyers have a 6.5 greater experience than suppliers. Experienced negotiators have to be good listeners and consistently look for solutions towards an agreement.

Comparison of negotiation preparations between buyers and suppliers

We also wanted to determine negotiation preparations between buyers and suppliers using a chi-square test. Negotiation preparation is very important for favorable outcome for both parties. Results were identical so the chi-square test is not reliable. The significance (p) is 1 and the odds ratio (Δ) also is 1. We can conclude that the importance of preparation was important for both buyers and suppliers. The quality of preparation is a precondition for excellent negotiating results. Results from the contingency table show that buyers and suppliers emphasize a great importance in terms of preparing for negotiations. As such, we can confirm hypothesis H2.

Frequencies observed are identical. This result is not completely in accordance with the results of the qualitative analysis. All interviewed buyers stressed using preparation before negotiations, which was not

true for all suppliers. Interviewed suppliers indicated more preparation time and more negotiation information. Information is a prerequisite for quality preparation. The lack of information and poor quality of information are permanent practice. The importance of preparation was similar between buyers and suppliers. The probability of encountering a poorly prepared opponent was the same for both buyers and suppliers. Four buyers and four suppliers from the contingency table did not practice preparation. They were convinced that they were sufficiently experienced and superior and were confident in the success of the negotiation. But such a tactic could be fatal. The opposing partner can be frustrated with such attitudes. The lack of preparation is very often the reason for failure. Poorly prepared negotiators can be easily recognized. In such situations, the opposing partner has to adjust his/her tactics quickly. It is crucial that negotiation starts with preparation. The most important element during preparation is to determine our goals, the goals of the opponent and alternative possibilities. Strengths, weakness, opportunities and threats of our organization and suppliers also are very important foundation of the negotiation process.

In general, buyers emphasize greater importance in terms of preparation. The result of the negotiation usually is determined during the last phase of preparation. A clearly defined objective at the start of the negotiation is crucial. This is one of the tasks in terms of preparation. If we are not able to reach our goal during negotiations, than we need to determine alternative possibilities. This should also be defined during the preparation phases.

Comparison of position (power) between buyers and suppliers

All 25 suppliers stated that their negotiating position is inferior. The opposite situation was with buyers. The majority, i.e. 21 stated that their position was superior and only 4 stated that their position was inferior. This result was expected. The negotiating power was on the buyers' side confirms hypothesis H3. The null hypothesis stating that the negotiating power of buyers and supplier is equal is rejected.

We can conclude that negotiating position of buyers is absolutely superior. Variables power and buyer/supplier are related. Pearson's chi-square test with Yates's continuity correction is significant: $\chi^2(1) = 33$; $p = 0.001$. The confidence interval of Fisher's exact test is 0 and 0.05. The test is also significant at less than 0.001. We can claim with probability greater than 99.9% that negotiating power of buyers is greater than the power of supplier. Such position of suppliers is not optimistic. Masschelein, Cardinaels, and Van den Abbeele (2012: 953) confirm our

conclusion that purchasing officers are more experienced, and have more negotiating power than suppliers.

Superior negotiation position means influencing suppliers' decisions. We have to predict the opponents' goals. An agreement cannot be possible, if the goals of the buyer and supplier are too far apart. Common understanding, listening to the other side, and discovering common solutions influence decisions of the opponent. Information is crucial for negotiating power. If we have accurate and quality information, position (power) is strong. If the opponent disposes of better information, his or her power can be stronger and those we are in danger. The preparation was not sufficient and in such situations we are forced to break such negotiations. We have to have negotiating power and power of buyer's position to change the opponent's belief and attitudes.

Comparison of negotiation price between buyers and suppliers

The statistical result shows a relationship between price and respondent type. Responses were approximately equally distributed. The opinion between suppliers was practically identical and the importance of price was not significant. Most buyers considered that price was not the most important negotiating factor, 15 out of a total of 25. Hypothesis H4 that price is the most important negotiating factors is rejected.

Pearson's chi-square test was not significant, because frequencies observed were homogeneously distributed between four cells in the contingency table. Pearson's chi-square test with Yates's continuity correction was not significant: $\chi^2(1) = 0.08$; $p = 0.78$. Fisher's exact test provided additional confirmation and odds ratio was 1.38, 95% confidence interval was 0.39 and 4.92 and $p = 0.78$. The test was not significant. The variable price is not related to respondents' type (buyer/supplier). The importance of negotiating price is equally important for buyers and suppliers. The interesting conclusion is that, in general, price is not the most important negotiating factor. This is very favorable and apparently, all business partners emphasized other negotiating factors as more important than price alone.

The result of the qualitative analysis was partially different. All interviewees highlighted that price was very important. This was the reason that price was included in the survey. Many interviewees stated that price was the essence of negotiation. We also concluded through interviews that suppliers did consider price to be the most important factor. The opinion of the buyers was opposite. Buyers emphasized the quality of material, respect for deadlines, supply and payment conditions, and so forth. Odds ratio obtained was 1.4, which means that

buyers were convinced 1.4 times more compared with suppliers' opinions that price was not the most important negotiating factor. According to quantitative analysis, approximately one-half (52 %) of respondents stated that price was not the most important factor. In general, cost reduction is a permanent task of all organizations, so negotiating price is still very important. Prices have direct effect on financial results and negotiation about prices is very delicate for both business partners. If we are not able to reach acceptable prices an alternative supplier has to be chosen. However, this can be very costly in terms of time and money.

Comparison of influence of negotiation duration on negotiation results between buyers and suppliers

The influence of negotiation duration on negotiation results between buyers and suppliers was not significant at $p > 0.05$. This was the opinion of 6 out of a total of 25 suppliers and 10 out of a total of 25 buyers. The report of Pearson's chi-square test with Yates's continuity correction was $\chi^2(1) = 0.83$; $p = 0.36$ and considered not significant. The report of Fisher's exact test was the odds ratio of 2.08 with 95% confidence interval 0.54 and 8.71 at $p = 0.36$ and also considered not significant. The two variables were not correlated and as such negotiation outcome is not dependent of negotiation duration between suppliers and buyers.

We calculated frequencies observed with quantitative analysis. A common opinion between buyers and suppliers was that negotiating duration influences the result of the negotiation. The influence was of significant opinion for 19 suppliers and 15 buyers; whereas the opinion of 6 suppliers and 10 buyers was opposite. Consent was higher between buyers. Hypothesis H5 thus is rejected. The outcome of negotiation is not dependent on duration of negotiation between buyers and suppliers.

The duration of negotiation is dependent of many factors. One of them is complexity of the topic and second is knowledge of negotiators. Longer negotiation often means painful negotiation and deviations from positions probably on the both sides. Buyers and suppliers agree that duration does not have an effect on negotiation results. The tactic of 'deadlines' or 'time milestones' can be implemented during negotiation. This tactic influences negotiation decisions. The tactic is dependent on (1) external factors: change of tax rate, accidents, mergers & acquisition, and so on, and (2) internal factors: start of a new season, insufficient quality, new development activities, new materials, and so forth. Simonelli (2010: 166) stresses that the possibility of agreement is restricted by time limitation.

Comparison of negotiation process and influences in the relationship between buyers and suppliers

The results shown in contingency table are practically identical between buyers and suppliers. The majority of respondents (i.e. 45) were of the opinion that the negotiation process significantly impacts the relationship between buyers and suppliers. Only 3 buyers and 2 suppliers had the opposite opinion.

Pearson's chi-square test is not reliable, because the difference between buyers and suppliers was so minor. Pearson's chi-square test with Yates's continuity correction was calculated at $\chi^2(1) = 0$; $p = 1$ and the test was not significant. Fisher's exact test showed the odds ratio was 1.55 with 95% confidence interval 0.16 and 20.28 at $p = 1$. The test also was not significant. The difference between buyers and suppliers does not exist. All were convinced that the influence exists and that it is significant. The odds ratio means that suppliers were 1.55 times more convinced than buyers. Hypothesis H6 is confirmed, as 90% of respondents were of the opinion that the negotiation process influences the relationship between buyers and suppliers.

Negotiations are a more complex interaction between buyers and suppliers. We confirmed with qualitative and quantitative analysis that negotiating process significantly influences relationship between business partners. The mutual trust and respect is essential between negotiation and for business collaboration. Positive negotiating environment encourages both sides and encourages further cooperation. Negotiation is a multi-disciplinary craft and includes knowledge about peoples' behavior, understanding, communication, listening, knowledge of cultural characteristics, and so on. We have to have negotiation knowledge and skills obtained through training and practical experience. Negotiation is the art of solving problems and discovering solutions that are acceptable for all business partners. For this reason, the relationship is so delicate. The goals of buyers and suppliers have to have a common prosperity and to increase one's competitive advantage.

Comparison of relationship between business partners is influenced by negotiating process between buyers and suppliers

Respondents were of the opinion (16 suppliers and 23 buyers) that negotiations influence negatively the relationship between buyers and suppliers.

Pearson's chi-square test with Yates's continuity correction was significant: $\chi^2(1) = 4.20$; $p = 0.04$. Fisher's exact test also was significant ($p = 0.04$): the odds ratio was calculated at 6.4, with 95% confidence interval 1.09 and 66.97. Variables are dependent. We can accept the alternative hypothesis H7 that the relationship between buyers and suppliers is negatively influenced by the negotiation processes. The null hypothesis is rejected. The odds ratio explains that negative opinion is 6.4 times more often between buyers compared to suppliers. Hypothesis H7 is rejected. Relationships between buyers and suppliers are positively influenced. This statement can be claimed with a 95% probability.

Jiun-Sheng and Yun-Chi, (2012: 89) state that negotiations significantly influence relationships between business partners. Research in this area is therefore interesting and necessary. We were of the opinion that the negotiating process positively influences business partners. But findings from qualitative and quantitative analysis is opposite. According to qualitative analysis, 5 out of 6 interviewees stressed that negative influence was presented. Most negative experiences were expressed by suppliers. One interviewee emphasized the feeling of anger through the negotiation process. The anger was the result of a frustrating situation, because we were not able to reach the goal defined in the preparation phase. We have negative effect on one or on both negotiators. The anger is disruptive for all negotiators and collaboration is difficult. Partners in negotiation have to prepare a realistic and feasible plan of strategy implementation. The agreement has to be realistic and feasible also. Both sides have to realize everything that is defined in the agreement.

Comparison on how satisfied buyers and suppliers were with negotiation outcomes

We wanted to determine using Wilcoxon rank-sum test the difference of negotiation satisfaction between buyers and suppliers. Our assumption was that buyers are more satisfied with negotiations' outcomes (results). The Wilcoxon rank-sum test with continuity correction for two independent groups was used. The report of statistics was: $W = 82.5$, $p < 0.001$, where the test is significant. We can confirm that the deference between buyers and suppliers exist. Buyers were more satisfied. In the grading scale from -3 (COMPLETELY UNSATISFIED) to +3 (VERY UNSATISFIED), mean of suppliers was 0.44 and the mean of buyers was 2.20. Hypothesis H8 is confirmed that buyers are more satisfied with negotiations' outcome compared with suppliers.

The success of negotiations is evaluated by the outcome of the negotiation. The best outcome is reached if both sides are satisfied, which is very rare. The successful outcome is “win-win” strategy. We have found from the literature review that a supplier who is not satisfied with the outcomes of the negotiation does not want a long-term collaboration. The mean satisfaction of buyers was 2.20 and suppliers 0.44 and as we can see the difference is quite large. Good preparation is essential for a good outcome and insufficient preparation by suppliers is one of the reasons for lower mean of satisfaction.

The outcome is a relative term and the measurement is difficult. Each partner wants to obtain as much as possible and lose as little as possible. We have to define our goal. We have to define the best alternative solution – The Best Alternative to Negotiation Agreement (BATNA). The BATNA is the minimum threshold of negotiations. Both sides have to invest a lot of energy, time and money to reach an agreement. The psycho-physical preparation also is important and common interests are prerequisites for successful agreement.

Conclusion

The result of the quantitative analysis is the research model. Eight survey questions were derived directly from the model. The basis of the quantitative analysis was the questionnaire. We defined eight hypotheses and the following are the conclusions based on our sample:

- ✦ EXPERIENCE: If we are a buyer, we want negotiations as much as possible. The reason is that buyers are 6.5 times more experienced than suppliers. Training and practical experience is important to obtain experiences.
- ✦ PREPARATION: Buyers and suppliers are equally prepared. To encounter insufficient prepared opponents is equally probable for both buyers and suppliers. All interviewees and respondents stressed great importance of preparation for successful negotiations.
- ✦ POWER: Results are very clear. The position of suppliers is inferior. This fact is very frustrating for suppliers and is not a good beginning for negotiations.
- ✦ PRICE: Price is the most important negotiating factor for suppliers and buyers. All emphasize other factors also, for example quality, delay, quantity, and so on.
- ✦ DURATION: Negotiation outcomes are not dependent of negotiation durations. This is the opinion of both buyers and suppliers. The opinion is not significantly different.
- ✦ INFLUENCE: Relationship between buyers and suppliers are significantly influenced by negotiating processes.

- ✧ RELATIONSHIP: Relationship between buyers and suppliers are significantly compromised by the negotiating processes. The influence is significantly negative.
- ✧ OUTCOME: Buyers are more satisfied with negotiation outcome compared with suppliers. This is logical as the position (power) of buyers is significantly inferior.

Common respect between negotiators is very important through negotiation. We need negotiating knowledge and this knowledge has to be focused on discovering common solutions and strengthening of connections between partners. The negotiator is the representative of the organization and of the cultural environment. Jiun-Sheng and Yun-Chi, (2012: 94–95) note that organizations with developed relations with business partners are more competitive take advantage of the developed relations.

We would like to highlight to society that negotiation is an interactive and iterative process. All partners in negotiations want positive results. All partners are opponents because interests are different and opposite. This research study is important because society can obtain important data for common understanding between resolving negotiation conflicts. We can conclude from the qualitative analysis of transcripts that perceptions regarding the direction of negotiation of the buyer is different compared to the supplier: preparation, the topic of negotiations, the negotiation power (position), relationships, and so on. Carter, Carter, Monczka and Scannell, (2011: 23) emphasize, "The greater the trust between buyer and supplier, the more effective the working relationship, communications and innovation opportunities." Buyers and suppliers have different points of view on common activities.

References

- Bahinipati, Bikram K., & Deshmukh, S. G. (2012): Vertical collaboration in the semiconductor industry: A decision frame work for supply chain relationships. *Computers & Industrial Engineering*. Vol.: 62, No.: 2, pp.: 504-526, doi: <http://dx.doi.org/10.1016/j.cie.2011.10.017>.
- Byrne, P. J., Heavey, Cathal, Blake, Paul, & Liston, Paul (2013): A simulation based supply partner selection decision support tool for service provision in Dell. *Computers & Industrial Engineering*. Vol.: 64, No.: 4, pp.: 1033-1044, doi: <http://dx.doi.org/10.1016/j.cie.2013.01.013>.
- Carter, Joseph R., Carter, Phillip L., Monczka, Robert M., & Scannell, Thomas V. (2011): Innovation Sourcing – The Suppliers' Perspective. *Supply Chain Management Review*. Vol.: 15, No.: 6, pp.: 18-25.

- Cheng, Chi-Bin (2011): Reverse auction with buyer-supplier negotiation using bi-level distributed programming. *European Journal of Operational Research*. Vol.: 211, No.: 3, pp.: 601-611, doi:10.1016/j.ejor.2011.01.017.
- Jiun-Sheng, Chris Lin, & Yun-Chi, Chang (2012): Retailers' new product acceptance decisions: incorporating the buyer-supplier relationship perspective. *Journal of Business & Industrial Marketing*. Vol.: 27, No.: 2, pp.: 89-99, doi:10.1108/08858621211196967.
- Lumineau, Fabrice, & Henderson, James, E. (2012): The influence of relational experience and contractual governance on the negotiation strategy in buyer-supplier disputes. *Journal of Operations Management*. Vol.: 30, No.: 5, pp.: 382-395, doi: <http://dx.doi.org/10.1016/j.jom.2012.03.005>.
- Martínez-de-Albéniz, Victor, & Simchi-Levi, David (2013): Supplier-Buyer Negotiation Games: Equilibrium Conditions and Supply Chain Efficiency. *Production and Operations Management Society*. Vol.: 22, No.: 2, pp.: 397-409, doi: 10.1111/j.1937-5956.2012.01374.x.
- Masschelein, Stijn, Cardinaels, Eddy, & Van den Abbeele, Alexandra (2012): ABC Information, Fairness Perceptions, and Interfirm Negotiations. *The Accounting Review*. Vol.: 78, No.: 3, pp.: 951-973, doi: 10.2308/accr-10214.
- Moosmayer, Dirk C., Schuppar, Bjoern, & Siems, Florian U. (2012): Reference Prices as Determinants of Business-to-Business Price Negotiation Outcomes: An Empirical Perspective from the Chemical Industry. *Journal of Supply Chain Management*. Vol.: 48, No.: 1, pp.: 92-106, doi: 10.1111/j.1745-493X.2011.03254.x.
- Simonelli, Nicole M. (2011): Bargaining over International Multilateral Agreements: The Duration of Negotiations. *International Interactions*. Vol.: 37, No.: 2, pp.: 147-169, doi: 10.1080/03050629.2011.568845.
- Thomas, Stephanie P., Thomas, Rodney W., Manrodt, Karl B., & Rutner, Stephen M. (2013): An Experimental Test of Negotiation Strategy Effects on Knowledge sharing Intentions in Buyer-Supplier Relationships. *Journal of Supply Chain Management*. Vol.: 49, No.: 2, pp.: 96-113, doi: 10.1111/jscm.12004.
- Windolph, Melanie, & Moeller Klaus (2012): Open-book accounting: Reason for failure of inter-firm cooperation? *Management Accounting Research*. Vol.: 23, No.: 1, pp.: 47-60, doi:10.1016/j.mar.2011.07.001.

MEDIA CONCERN AND TRENDS OF FERTILITY IN BANGLADESH

Mohammad Morad¹

| 99

Abstract

This paper analyses how the media interprets Bangladeshi fertility trends by analyzing 11 online available articles from two Bangladeshi leading dailies, *The Daily Star* and the *Prothom Alo*. The exploration of the newspaper articles reveals that print media in Bangladesh has shown concern notably on the present scenario of the country's declining fertility trend. It has been observed from the newspaper clippings that both population growth rate and fertility rate are gradually declining in Bangladesh which they explain as a matter of great satisfaction. Drawing on examples from South Asia, the articles explain that Bangladesh has a remarkable achievement in fertility reduction compared to India and Pakistan. However, almost all of the articles have expressed concern over the population bomb of Bangladesh. The newspapers also report that though fertility is declining at the national level, significant variation exists at the regional level and among different socio economic groups. The fertility rate is reported to be very high in the urban shanties and poverty-stricken rural areas. In this regard, the clippings have often criticized the government activities, especially governmental population control programme.

Key Words: Media's Concern, Fertility Declining, Population Growth, Internal Migration, Political Leaders' Outlook

DOI: <http://dx.doi.org/10.12959/issn.1855-0541.IIASS-2014-no2-art06>

Introduction

It is apparent from the existing evidence base that in recent decades, there has been a substantial decline in fertility all over the world. Indeed, during the past half century, the world observed a remarkable decline of fertility, from over 5 births per woman in the period 1950-1955 to 2.65 births in the period 2000-2005 (United Nations, 2005). However, declining fertility was firstly observed in the so-called developed

¹ Mohammad Morad, MSS, MA, Assistant Professor, Department of Sociology, Shahjalal University of Science & Technology, Sylhet, Bangladesh, E-mail: moradsust@yahoo.com

countries, mainly in Europe. It has shown that whereas many of these countries experienced a “baby-boom” during the 1950s and 1960s, the decline started in the 1970s to below-replacement level (ibid). Since 2000, the 'baby bust' has replaced the 'baby boom' and later, this trend was also observed in other developed countries from Asia, North America, Australia, and some other parts of the world (Douglass, Carrie B. et al, 2005: 4). Whereas the number of countries with below replacement levels fertility was only 5 in 1960, these numbers have increased to 64 in 2000 (ibid). In fact, by 2005-2010, almost all developed countries had achieved fertility levels, below 2.1 children per woman; only two countries- Iceland and New Zealand- had fertility levels equal or just above 2.1 in this period (United Nations, 2013).

Majority of the developing countries have also experienced rapid fertility decline in recent decades. According to the United Nations' World Population Prospects (2012), in the last 38 years, since the first World Population Conference held in Bucharest, Romania, in 1974, fertility has declined by over 20 per cent in 150 developing countries and more than 50 percent in 40 of them. Overall, the total fertility rate (TFR) of the developing world dropped from 5.36 births per woman in the late 1970-1975 to 2.69 births in 2005–2010 (United Nations 2013). The most rapid decline has been observed in Asia, North Africa, and Latin America region where social and economic development has been relatively rapid and it also happened in some countries of Sub-Saharan Africa despite their lagging development (Bongaarts, 2008). Among the Asian countries, where fertility rate was greater or equal to 4 children per women in 1975-1980, the rapid fertility decline happened in Islamic Republic of Iran, United Arab Emirates, Saudi Arabia, Oman, Qatar, Lebanon, Mongolia, Viet Nam, Myanmar, Maldives, Bhutan, and Bangladesh (United Nations 2013).

Therefore, with regard to the fertility reduction, Bangladesh is one of those successful developing countries in Asia that are experienced with profound decline in the fertility rate since mid-seventies. Fertility has declined steadily over the years, from 6.3 children per women in 1975 to 5.1 children per women in 1989, 3.3 children in 1999/200 and 2.3 children in 2011 (BDHS, 2013). This declining fertility trend in Bangladesh has been seen as a historic record in demographic transition (Rahman and Razzaque, 2003). Many experts argued that the family planning programme of Bangladesh government has played a vital role in this rapid decline of fertility (e.g. Das Gupta and Narayana, 1997; Bairagi & Datta, 2001; and Rahman and Razzaque, 2003). The 2005 Bangladesh Demographic and Health Survey (BDHS) showed that

use of contraception among married women in Bangladesh has increased gradually- from 8 percent in 1975 to 61 percent in 2011.

As Bangladesh is a highly populous country, this rapid decrease in fertility is evaluated as impressive and very desirable by many researchers, academics and scholars. Indeed, with an estimated 164.4 million people (Farid et al., 2011: 121), it has become the seventh most populous countries in the world (Khan and Khan, 2010: 3), and at the same time it is one of the most densely populated country, excluding city-states such as Singapore, Bahrain, and the Vatican, with 1100 people living per square kilometre (Farid et al, 2011:121). It has been estimated that the present size of this population is likely to grow up to 177.9 million in 2025 and 201.9 million in 2050 (United Nations 2013). This projection is definitely a cause for concern as the country is poor, has the environmental deterioration, massive migration from rural settings to unplanned urban areas, and swift depletion of resources (Rahman and Razzaque, 2003). Besides, though fertility is declining at the national level, wide variations in fertility rates exist among the socio-economic groups and geographical regions (BDHS, 2013). Yet fertility rate is still high compared to the 'developed world'. This paper discusses how all these fertility related issues in Bangladesh are presented in the Bangladeshi media by analyzing some national newspaper clippings.

Media Interpretation of Fertility

One of the most significant current media concerns in the world is the fertility issue. While more and more press in developing countries address high fertility issues, national press in the developed industrial world is more and more concerned with the below replacement fertility. At the same time, this media presentation and interpretation of fertility has also become an important subject of study. Especially in the case of Europe, some scholars analyse how media presents the issue of replacement level fertility by analysing their national media. For example, Douglass, Carrie B. et al. (2005: 6-9) analyzes the media concern of Europe and identifies the reasons why countries are worried about the below replacement level fertility. Among repercussions of below replacement fertility they stress the negative population growth, emerging metaphors about a fear of national decline, changing age pyramid due to the population aging, and discussions on replacing international migration as a possible solution for negative population growth. In the case of Slovenia, Knežević Hočevar (2004) reviewed 177 newspaper articles from Slovenian press published between 1970 and 2000. The study showed that Slovenian media discussed at large fertility and migration issues in the period of proclamation of Slovenian sovereignty. She discovered that in the 1970s, fertility decline in Slovenia was mostly presented as a sign of cultural and economic

development. But during the 1980s, Slovenian newspaper articles presented some catastrophic headlines and the rate of immigration has been interpreted as a threat of 'vanishing of Slovenia'. Finally, her study revealed that about 70 percent articles published during the 1990s raised the issue of Slovenian fertility decline in public attention focusing the threat of numerical smallness, and xenophobic attitude towards immigrants. Moreover, in the case of the United Kingdom, Brown and Ferree (2005) insisted that British newspapers represent the issues of falling birth rate in a particular way as begging, lecturing, threatening and bribing the 'national population' for increased fertility.

As Bangladesh is an opposite case, being among the most densely populated countries in the world, it is expected that the media in Bangladesh is very much concerned with its present fertility trend. Perhaps they address several problems that tend to be alarming for the nation because of its present population size and at the same time some issues might be presented as a matter of great satisfaction as declining fertility is desirable for the country. Therefore, the main aim of the paper is to delineate how media interprets the present scenario of the fertility of Bangladesh by analyzing clippings from two leading daily popular newspapers of Bangladesh. Henceforth, the paper first points out how fertility is presented in the newspaper clippings in Bangladesh by analysing the salient features of the writings. Second, the discussion will turn to how journalists summarize the fertility and migration issues in Bangladesh. Furthermore, the analysis will go through the worries and the satisfaction presented by the clippings as to the fertility and population growth in Bangladesh.

Methodology

Media concern and trend of fertility in Bangladeshi is examined by reviewing 11 online available articles from two Bangladeshi leading dailies, *The Daily Star* and the *Prothom Alo*. All articles were published between the years 2010 and 2012. The majority of articles (10) are collected from the Bangladesh leading English daily, *The Daily Star* and its monthly publication – *Forum*; one article belongs to the Bengali daily the *Prothom Alo*.

Result and Discussion

The main Features of Newspapers' Talk

From the analysis of 11 reviewed articles, four main features are explored. These include (i) demographic trends and their causes, (ii) trends of fertility, (iii) fertility variation and its causes, (iv) criticism towards

government activities and political leaders' outlook. The next section describes these salient features of the writings in details.

Demographic Trends and Their Causes: All newspaper clippings reviewed often express concern over the current demographic trends in Bangladesh. These articles describe a catastrophic outlook, emphasising the present scenario as alarming for Bangladesh. Reviewed articles assert that the long tradition of high fertility in the country is the main reason of such demographic trend. It has been presented that in Bangladesh, 1.8 to 2.0 million people are added to the total national population in every year (*Forum*, July, 2012). Though during the British period population growth rate was controlled due to high fertility and mortality rates, later on this trend increased due to decreasing mortality and continuing high fertility (*The Daily Star*, 8 July 2012). For instance, Bangladesh population rose by 242 percent between 1950 and 2000, and according to demographic projections it will increase by more than 50 percent between 2000 and 2050 (*ibid*). Accordingly, population will grow up to 180 million by the end of 2020, 220 million by the end of 2050 (*Forum*, July 2011), and 250 million by the year of 2081 (*Forum*, July 2012).

Discussing the causes of present trend of population growth, the articles also highlight the momentum between high fertility and falling mortality. These also stress on women who are in child bearing age that constitute a large proportion among the population. As one article stresses,

'The high population growth rate of Bangladesh is caused not only by current or high past fertility but also by the "momentum" created by the high fertility and falling mortality in the past five decades. Past high fertility and falling mortality mean that women currently entering the child-bearing age group constitute a large proportion of the total female population, and this proportion will continue to increase in this mid-century' (The Daily Star, 21 December 2010).

In sum, the articles report that population trend in Bangladesh is alarming as population is growing up rapidly.

Trends of Fertility: All the Newspaper clippings reported that over the years fertility trend is declining in Bangladesh. Clippings have shown that the TFR was nearly 7 in 1970 (*The Daily Star*, 8 July 2002). The TFR declined to 3 in 2004 and further reduced to 2.7 in 2007 (*Forum*, July 2011). Hence, overall the fertility trend is gradually declining in Bangladesh. The newspaper clippings also referred to the declining fertility trend, taking its examples from the household size in Bangladesh. For instance, while the household size was 5.5 persons per

household in 1991, the figure declined to 4.8 in 2001 and further dropped down to 4.4 in 2011 (*The Daily Star*, 8 July 2012). Some of them also claimed that Bangladesh is going to achieve replacement level fertility by 2015.

However, the clippings reported that even though the total fertility rate is declining over the year, adolescent fertility is increasing every year, as large numbers of young women are entering the reproductive age (*The Daily Star*, 21 December 2010). Therefore Adolescent fertility contributes much to the TFR. As it is mentioned in one of the article,

'Contribution of Adolescent Fertility to TFR rose from 20.8 percent in 1991 to 23.3 percent in 2007. The estimated number of women of reproductive age is 40.8 percent, and will rise to about 48 percent by 2021. The pace of momentum is being accelerated by the practice of early marriage of girls. According to the BDHS 2007, the female median age at marriage is 15.3 years. Whereas the legal age at marriage for girls is set at 18 years. The figures show that 68 percent of the adolescent girls are married by the age of 18, and 55 percent of them are becoming mothers before reaching the age of 19 years' (Forum, July 2012).

The newspaper clippings highlighted that, adolescent fertility is increasing due to the practice of early marriage in urban slums and rural areas particularly in the poor section of society and giving birth to child in early age as well as a large number of women entering reproductive age (*The Daily Star*, 11 July 2011; *Forum*, July 2011; and *Forum*, July 2012).

Fertility Variation and Its Causes: The reviewed newspapers also underscored the issue of fertility variation in Bangladesh. According to the interpretation in the news papers, though total fertility is declining at the national level, wide variations in the fertility exist among the geographical regions and different cross cutting socio economic groups. According to the articles, some regions of Bangladesh have already experienced the replacement level fertility, for instance, Khulna, Rajshahi, and Dhaka division, but other divisions such as Barisal, Sylhet, and Chittagong still have high fertility rates (*Forum*, July 2012). They have also shown discernible differences between rural and urban fertility rate. For instance, women in urban areas have 2.4 children, while that figure is 2.8 in the rural area (*Forum*, July 2011).

Fertility rate also varies within the region. Comparing urban areas, another clipping highlighted that fertility in slum area is higher (2.46) than that of non-slum areas (1.85). While non-slum areas' birth rate is 17.9

percent per 1000 women, in slum areas this rate is 23.8 percent (*The Daily Star*, 11 July, 2011). Besides, in slum areas, 64 percent of women have become mothers before reaching the age of 20, which is 44 percent in the non-slum areas and 45 percent in the district municipality areas (*Forum*, July 2012).

It has been shown that women's education is strongly associated with fertility. Women who have the low education have the highest fertility while the women with higher education have the lowest:

'Fertility also varies with mother's education and economic status. Women with no education have an average of 3.0 children compared to 2.3 among women who have completed secondary school or higher' (*Forum*, July 2011).

Besides, the clippings also highlight that fertility is also negatively associated with wealth. As it is mentioned in one of the article:

'Fertility also decreases with household wealth. The poorest women have an average of 3.2 children -- one child more than women from the wealthiest households (2.2 children)' (*Forum*, July 2011).

In sum, fertility varies in many aspects

Among the reviewed articles, some articles (e.g. *The Daily Star*, 11 July, 16 July 2011, and *Forum*, July 2012) also identify the causes behind the above mentioned variation in fertility rate. They all stressed that the slow progress of governmental family planning programme¹ is the main reason of this variation. According to the articles, poor women in rural areas and urban slum areas have little access to the family planning services provided by the government. For instance, in the six City Corporation, Government UPHCP (Urban Primary Health Care Project) programme covers only 25 percent of the urban population (*The Daily Star*, 16 July 2011). In the slums, women have little access to government services, and they are not provided free contraceptives. They have to buy those from the nearby drugstores (*The Daily Star*, 11 July 2011). As a result, they do not practice contraception seriously:

¹ Recognizing the importance of reducing fertility rates, Bangladesh Government took Family Planning Program as an official program since 1961 which deployed Family Welfare Assistant (FWA), initiated Social Marketing Program to promote contraceptive, encourage delayed marriage and other motivational and awareness program for population control (<http://dgfpmis.org/>)

'This 35-year-old mother is expecting her fifth in a couple of months. Jaheda, who lives on selling flowers, feels no charm in having a new member in the family; neither does she resent it. All she says, "It just happened." Her eldest daughter Hanufa gave birth to a child just last month. The government family planning slogans "Two is good enough--boy or girl" or "One child is good, but no more than two," did not work for Jaheda. especially the poor and slum dwellers are deprived of family planning services as the Urban Primary Health Care Project (UPHCP) lacks door-to-door family planning services' (The Daily Star, 11 July 2011).

On the other hand, some articles highlight that rural and slum women are still not fully conscious of birth control measures; especially some rural women view birth control as being taboo and they do not trust the government of Bangladesh's family planning programmes:

'Undeniably true, there is an element of cover up, taboo and a sense of shame in discussing sex and family planning even amongst adults in the villages. Presumably, no rural couple is going to opt for birth control if it means walking several kilometres to buy a packet of condoms' (The Daily Star, 16 July 2011).

In this case, the article criticizes the fact that government's grassroots level workers have a little work for these targeted women, especially given that they do not have any motivational and counselling programme for them (*The Daily Star*, 16 July 2011).

Criticism towards Government Activities and Political Leaders' Outlook: Bangladesh governmental population control programmes are often criticized by the newspapers. As observed from the previous section, some clippings stressed that the government family planning programme failed to serve the whole population as a lot of urban slum and poor women are excluded from it (*The Daily Star*, 11 July, 16 July 2011, and *Forum*, July 2012). Some articles express criticism in that the country is moving towards an uncertain future because of the present population trend yet the government has neither a specific plan of action nor the required allotments in the national budget (*Forum*, July 2011). On the other hand, two articles criticize the present prime minister and former prime minister of Bangladesh. Prime Minister Shekh Hasina stressed in her lecture given in the Parliament that the present population of Bangladesh was not a problem for the country. Rather it should be seen as a possible transfer into skilled manpower (*Forum*, July 2011). The article argues that the Bangladeshi prime minister is not aware of the present population trend and its consequences:

'...in the Parliament, what the honorable Prime Minister said is really frustrating. She neither considers the population of one of the most highly dense countries of the world as a burden, nor is she concerned about the high growth rate of its population.'

Besides, another article (The *Daily Star*, 6 June 2012) made a headline on the demographic vision of Khaleda Zia, a former prime minister and present opposition leader. The opposition leader believes in zero population growth of Bangladesh by 2030. However, newspaper clippings have opined differently. They cited examples from the population data in Scandinavian countries and Japan and argue that these countries have lost their working population due to their negative population growth. They exclaimed that the target of achieving zero population growth by 2030 will result in negative population growth which will drastically reduce working population in Bangladesh. Their prescription is to concentrate on stable population size rather than zero population growth.

Relation between Fertility and Migration

Focusing to the internal migration, two articles (*Forum*, July 2011 and 2012) also present the fertility and migration nexus of Bangladesh. The articles show that there is internal migration increase due to high fertility and population growth in rural areas. According to these articles, the rapid urbanization is a result of this nexus as people migrate to the cities like Dhaka, Chittagong and Rajshahi, Khulna, Braishal, and Sylhet. Therefore, the proportion of urban population raised from 5.2 percent in 1961 to 7.6 percent in 1970, 25.1 percent in 2008, and 27.1 percent in 2010, and it is projected to achieve 39.3 percent in 2030 and 57 percent in 2050.

This internal migration rate is said to be much higher than that of national population growth rate. Among the cities, the migration rate in the capital city Dhaka is the highest. While the national population growth rate is 1.34 percent per year, the national internal migration rate is 4.5 percent, and in the case of Dhaka city this rate is about 6.0 percent (*Forum*, July 2012). On the other hand, the articles stress that among the internal migrants, the poor and homeless people mainly migrate to the cities where they accommodate themselves in the slums or shanties. While the urban growth rate is 3.5 percent per year, in the case of slums, this rate is 7.0 percent (*Forum*, July 2012). Therefore, as population is increasing every year, people are moving to the major cities. They are mostly village poor people who move into the slum

areas. Finally, this in-migration contributes to the rapid growth of urban slums.

Factors of Worries and Satisfaction

Whilst the review of articles has on the one hand revealed some factors as a matter of concern, it has on the other hand presented other factors of satisfaction.

Factors Creating Worries: Articles mainly show fears towards the population boom identifying several reasons for such a trend, stressing that the future population trend is a threat for the nation. Firstly, it has been shown that the future highest population growth would threaten the country for many reasons. On the one hand, poverty alleviation will be hampered, on the other hand, the food supplies, employment, housing, health care, forests and other natural resources, and the environment would be impeded (*The Daily Star*, 21 December 2010). Addressing the population growth as a threat, the article is illustrative:

'Between now and 2025, the country will witness its maximum population growth. Such growth threatens severe implications not only in the alleviation of poverty but also in such matters as food supplies, employment, housing, health care, forests and other natural resources, and the environment' (The Daily Star, 21 December 2010).

Secondly, due to the population boom, Bangladesh has been losing agricultural land continuously. For instance, as 2 million people are added every year to the national population, this leads to a decrease in agricultural land by 1 percent every year. Thus, while in 1980, total agricultural land was 9 million hectares, it is now only 6 million hectares (*The Daily Star*, 16 July 2011). Thirdly, rapid urbanization is seen as another serious problem. According to some estimation, out of the projection of 230 million people by the year 2040, 120 million people will live in urban area. As women in urban slums tend to have more births and use less contraceptives, articles warn that the country population will not be possible to control if the urban population issue is not taken into consideration (*The Daily Star*, July 11, 2011). Finally, the clippings stress some worries about the limitation of government activities, practice of early marriage and tabooed attitudes against birth control among the rural and urban slum women.

Matter of Satisfaction: Only two articles report positive images regarding the present fertility trend and progress of population control. One article highlights the present rate of TFR, and claims that Bangladesh TFR is

close to replacement level fertility which is an even better situation than in 10 larger Indian States:

'Bangladesh's Total Fertility Rate, children born per woman, is 2.2 (nearly the "replacement rate") and lower than that of 10 large Indian states, including Gujarat (2.5) and Haryana (2.3)' (The Daily Star, 8 September 2012).

The other clipping refers to fertility and progress in population control. Compared to Pakistan, Bangladesh's achievement in population control, fertility decline and use of contraceptive is much better:

'Bangladesh has achieved important progress in population control in the last 40 years. This also clearly evident from the comparison of population related index between Bangladesh and Pakistan. In the some index, the picture of Bangladesh is better than Pakistan. Rate of Total population, total fatality rate, use of contraceptive-in every sectors Bangladesh achieved more progress than that of Pakistan. Thus, Bangladesh population is 153 million, whereas it is 181.4 for Pakistan. Researchers argue that if Bangladesh stayed like Pakistan Bangladeshi population has risen to 190 million' (The Daily Prothom Alo, 24 November, 2012)¹.

This clipping lauds the government of Bangladesh for this achievement. Since the mid-1970s, the family planning program has played a vital role in controlling Bangladesh population. Taking statistics as evidence, the article explains that in South Asia Bangladesh has remarkable success in contraceptive use. In Bangladesh, the article explains that 8 percent of married women used contraceptives in 1975, which reached to 61 percent in 2011. But at the same time period, the rate increased from 10% to 56% for India. In the case of Pakistan, though the data is unreported for the whole duration, the rate increased to 30 percent in 2011. The article also reported that Bangladesh's achievement in reducing fertility (measured in terms of TFR which is 2.3 in Bangladesh) is remarkable in comparison with Pakistan (3.2) and India (2.5).

Conclusion

The exploration of the newspaper articles revealed that the print media in Bangladesh is showing their concern on the current fertility trend. It has been observed from the newspaper clippings that both population growth rate and fertility rate are gradually declining in Bangladesh. However, the level of population is increasing for various reasons in

¹ Quotation is the authors translation

Bangladesh. One of the reasons is that the fertility age population are large in numbers than other demographic aged population and those fertility aged people are contributing greatly in the TFR. The newspapers report that though fertility is declining at the national level, significant variation exists at the regional level and among the socio economic groups. The fertility rate is reported to be very high in the urban slums and rural areas. In some cases, early marriage is still rife in Bangladesh which is mostly being practiced among the women of slums and rural areas, and those women consider birth control a taboo. The newspaper clippings also pointed out that the government birth control program is not influencing poor women to reduce fertility much in urban slums and poor rural areas, as they are either beyond the target areas or neglected. Also, there is a lack of motivational and awareness building program in the stated areas. This requires more workable programs from the government level as per newspaper's claiming. Therefore, some of the clippings have shown their critical attitudes towards Bangladesh government and political leaders and assert the crucial role of the policy makers to mitigate the severity of the present scenario.

Some articles presented the relationship between fertility and internal migration trend. To my knowledge, none of the article has focused on emigration or immigration in relation to fertility. The articles identified that the rapid urbanization is a cause of rural -urban migration that happened due to high fertility and population growth in rural areas. The discussion has also shown that the internal migration rate is higher than that of national population growth. The capital of Bangladesh, Dhaka, has had the highest migration rate in Bangladesh than other metropolitan areas. This happens due to rural urban migration and locale in the urban slums, where fertility is very high.

The newspapers clipping also present some worries and satisfaction on the current trend of fertility. Almost all of the articles have expressed their worries about the population bomb of Bangladesh. It has been shown that as population is increasing every year, the population in future will be very alarming for the country's survival. Especially, the articles have painted the image that Bangladesh will be in serious crisis in future with regard to food supplies, employment, housing, health care, forests and other natural resources, and the environment. Besides, Bangladesh is losing its agricultural land every year because of massive urbanization. Hence, in the foreseeable future, a great number of Bangladeshi populations will be living in the city and assumed to face severe problems. Nevertheless, some clippings have also presented some news as a matter of great satisfaction. Great satisfaction is shown with the current declining trends of fertility. Drawing on examples from

South Asia, those articles explain that Bangladesh has a remarkable achievement in fertility reduction compared to India and Pakistan.

Acknowledgement

I hereby gratefully acknowledges to Dr. Duška Knežević Hočevar, by whom I was inspired and guided to write this paper when she was conducting the course 'Situating Migration in Population Dynamics, during my third semester of European Master in Migration and Intercultural Relations at the University of Nova Gorica, Slovenia.

References

- Bairagi, Radheshyam and Datta, Ashish Kumar (2001): Demographic Transition in Bangladesh: What Happened in the Twentieth Century and What Will Happen Next, *Asia-Pacific Population Journal*, 16(4), pp.3-16.
- Bangladesh Demographic and Health Survey (BDHS) (2005): *Bangladesh Demographic and Health Survey 2004*. Dhaka: National Institute of Population Research and Training and Mitra and Associates; ICF International, and Calverton, Maryland, U.S.A
- Bangladesh Demographic and Health Survey (BDHS) (2013): *Bangladesh Demographic and Health Survey 2011*. Dhaka: National Institute of Population Research and Training and Mitra and Associates; ICF International, and Calverton, Maryland, U.S.A.
- Bongaarts, John (2008): Fertility transitions in developing countries: Progress or stagnation? *Studies in Family Planning*, 39(2), 105-110.
- Brown, Jessica Autumn and Ferree, Myra Marx (2005): Close your eyes and think of England: Pronatalism in the British print media, *Gender and Society*, 19(1), pp-5-24, DOI: 10.1177/0891243204271222
- Das Gupta, Monica and Narayana, D. (1997): Bangladesh's Fertility Decline from a Regional Perspective, *Genus*, 53(3/4), pp. 101-12.
- Douglass, Carrie B., Rebecca Nash, Frikson Susan L., and Lim Anna (2005): Introduction. In: C.B. Douglass (ed.). *Barren States: The Population "Implosion" in Europe*, Oxford and New York: Berg, pp.1-28.
- Farid, K. S., Ahmed, J. U., Sarma P. K., and Begum S. (2011): Population Dynamics in Bangladesh: Data sources, current facts and past trends, *J. Bangladesh Agril. Univ.* 9(1), pp-121–130.
- Forum* (2011): The People Problem, *The Daily Star* monthly publication, July 2011.
- Forum* (2012): Population Challenges for Bangladesh, *The Daily Star* monthly publication, July 2012.
- Khan, Rahman, Atiqur and Khan, Mufaweza (2010): Population Programs in Bangladesh: Problems, Prospects and Policy Issues, *Population Communication Inc.*, California, USA.

- Khan Abdullah H.T and Raeside, Robert (1997): Factors affecting the most recent fertility rates in urban-rural Bangladesh, *Elsevier Science limited*, 44(3), pp-279-289, DOI: 10.1016/S0277-9536(96)00076-7
- Knežević Hočevar, Duška (2004): Vanishing Nation: Discussing Nations' Reproduction in Post-Socialist Slovenia, *Anthropology of East Europe Review*, 22(2), pp. 22-30.
- King, Leslie (2003): Demographic trends, pronatalism, and nationalist ideologies in the late twentieth century, *Ethnic and Racial Studies*, 25(3). pp. 367-389, DOI: 10.1080/01419870020036701
- Prothom Alo* (2012): Huge success in Population control. 24 November.
- Rahman, M., DaVanzo, J., & Razzaque, A. (2003): When will Bangladesh reach replacement-level fertility? The role of education and family planning services. Completing the Fertility Transition, *Population Bulletin*, Special Issue Nos. 48/49 2002, United Nation, New York.
- The Daily Star* (2010): Population growth and effects of age-structure. 21 December.
- The Daily Star* (2011): A boom on the cards: Least care for urban family planning sows danger for future. 11 July.
- The Daily Star* (2011): Bitter Truth: The population bomb ticking. 16 July.
- The Daily Star* (2011): Population census: Accuracy will determine the way forward. 19 July.
- The Daily Star* (2012): Zero birth rate by 2030: pledges Khaleda. 6 June.
- The Daily Star* (2012): Demography: The decider? 8 July.
- The Daily Star* (2012): Social Dev Factors: Bangladesh better than some Indian states. 8 September.
- The Daily Star* (2012): Bitter Truth: Women's emancipation still a distant dream. 5 September.
- United Nations (2005): *World Population Prospects: The 2004 Revision*. Department of Economic and Social Affairs, Population Division. New York: United Nations
- United Nations (2013): *World Population Prospects: The 2012 Revision*. Department of Economic and Social Affairs, Population Division. New York: United Nations

PROCEDURES OF PLACING CHILDREN WITH SPECIAL NEEDS IN PRESCHOOL PROGRAMMES IN SLOVENIA

Erna Žgur¹

Abstract

The aim of this research was to establish whether the implementation of early intervention legislation is uniform throughout the national territory. The research included all pre-school children (1121) between 2008 and 2012, placed either in the programme with the adapted curriculum and additional professional support (regular classes) or the adapted programme for pre-school children in special class units. We tried to determine whether the gender proportion is equally distributed across the national territory and if there is a significant difference according to the two pre-school programmes. For this purpose we used a Z-test with a 5% risk in hypothesis testing. It determined that the gender proportion is similar in all regional units; structural difference thus does not result statistically significant ($Z = 0,26$ for males and $0,02$ for females); critical value for the appropriate number of degrees of freedom is $Z_{0,05}(1000) = 1,96$. The proportion of children placed in regular classes and special class units, however, results statistically significant; $Z = 2,96$ with $Z_{0,05}(1000) = 1,96$. Similarly, the difference in the gender proportion in the entire sample results statistically significant; $Z = 15,11$ with $Z_{0,05}(1000) = 1,96$ (the proportion of males is higher than those of females). In both programmes the representation of children by gender results more or less even across the national territory (two-thirds of males and one-third of females). With the results obtained, the research confirmed that the procedures of implementing early intervention legislation are uniform throughout the Slovene national territory.

Keywords: adapted curriculum, adapted programme placement.

DOI: <http://dx.doi.org/10.12959/issn.1855-0541.IIASS-2014-no2-art07>

¹ Erna Žgur, PhD is an associate professor at the University of Ljubljana (Faculty of Education) and is a director of the Centre for Education, Rehabilitation and Training, Vipava. Contact address: erna.zgur@cirius-vipava.si

Introduction

In Slovenia the education of children with special needs is regulated by two laws: the Elementary School Act (Official Gazette of Republic of Slovenia, 87/2011) and the Placement of Children with Special Needs Act (Official Gazette of Republic of Slovenia, 58/2012) which came into force in 2013. The latter defines early intervention as part of the consultancy services; it defines the operation of centres of expertise (supporting inclusive education) and other rights. The Act defines the following groups of children with special needs: children with intellectual disabilities, blind and visually impaired children, deaf children and children with hearing impairment, children with speech and language impairment, children with motor impairment, children with long-term illnesses, children with learning problems, children with autism and children with emotional and behavioural disorders. Slovenia has seen increased involvement of children with special needs in regular preschool or elementary school programmes since 2000 (Opara, Barle Lakota and Globačnik, 2010: 23-57, 61; Globačnik, 2012: 21), when the first Placement of Children with Special Needs Act was adopted (Official Gazette of the Republic of Slovenia, 54/2000). Slovenia is one of the European countries with the highest participation rate of children in kindergartens, achieving 74% of the total population of pre-school children up to 5 years of age (Opara, Barle Lakota and Globačnik, 2010: 69; Globačnik, 2012: 30; European Agency for Development in Special Needs Education, 2013).

Special education placement procedures in Slovenia

The procedure of placing children into different programmes is run by the National Education Institute of the Republic of Slovenia, through its 9 regional units. Each of them has a Commission for Placement of Children with Special Needs which produces an expert opinion, on the basis of the mandatory documents, interview with an applicant and with a child. Prior to giving an expert opinion, the Commission needs to obtain the opinion of the kindergarten in which the child is to be included regarding material and spatial conditions, as well as regarding the specialist staff availability. The Commission with its expert opinion can suggest a suitable programme placement or it can establish that the placement is not necessary. The National Education Institute sends it to the applicant and issues a Decision. The placement decision determines the choice of the education programme; kindergarten, date. If necessary it determines the programme's scope, method and type, as well as the professional operator; accessories, space and equipment; occasional or permanent attendant for children with physical disabilities, etc. The

proposal for placement can be made by parents, guardians or an institute.

Two Pre-school programmes for children with special needs

The Placement Act determines the inclusion of pre-school children with special needs into one of the two programmes: the programme for pre-school children with adapted curriculum and additional professional support and the adapted programme for pre-school children in special class units. The choice of the programme is based on the Decisions made by the Commissions. Children included in the first programme attend regular classes and are provided with additional professional support which can be carried out by suitably qualified experts from other institutes. It can be implemented as a support for overcoming the deficits; as an advisory service or study help. It can be carried out whether inside or outside class, individually inside or outside class. The scope and the method are defined by the placement decision, in accordance with the legal norms. In the pre-school period additional professional support is limited to a maximum of three hours a week.

The adapted programme for pre-school children in special class units includes children with prominent developmental deficits, particularly those with intellectual disabilities or other accompanying deficits. In Slovenia the network of kindergartens with special class units has changed during the last years (Globačnik, 2012: 29) due to the ever more important process of inclusive education (Kobal Grum, Kobal, 2009: 37) and due to an increased emphasis on programme quality improvement (Brejc, Koren, 2010: 15). According to the Ministry of Education, Science and Sport (www.mizs.gov.si, 2014) the number of children with special needs has been constantly increasing in the last decade while the number of children with special needs included in the kindergartens with special class units has decreased.

Methodology

Sample

The study included the entire pre-school population of children with special needs (1121) between 2008 and 2012 (Surs, 2012, 2013). The programme with the adapted curriculum and additional professional support (regular classes) included 904 children - 589 boys and 315 girls, whereas the adapted programme for pre-school children in special class units included 217 children - 162 boys and 55 girls.

We used the statistical method for establishing the structural proportion of children placed into the two programmes (according to gender) and

the Z test with a 5% risk in hypothesis testing to establish the differences between the proportions.

$$Z = \frac{p_1 - p_2}{\sqrt{p \cdot q \left(\frac{1}{N_1} + \frac{1}{N_2} \right)}}$$

$$p = \frac{f_1 + f_2}{N_1 + N_2}$$

Aim and goal

The research was focused on defining the functions of the Commissions for Placement of Children with Special Needs in Slovenia and determining the population of children (according to gender) placed in one of the two programmes. Additionally, it was focused on outlining the practical application of the Placement Act through the work of expert commissions in nine regional units.

Hypotheses

The following hypotheses were set up:

- H1: there is a statistical difference in the gender proportion between two pre-school programmes - the programme with the adapted curriculum and additional professional support (regular classes) and the adapted programme for pre-school children in special class units.
- H2: there is a statistical difference in the proportion of children between the two pre-school programmes.
- H3: there is a statistical difference in the gender proportion in the entire sample of children.

Results

Table 1 – Structural proportions (according to gender) in individual regional units for the programme with the adapted curriculum and additional professional support (regular classes)

REGIONAL UNITS	p - M	p - F
Ljubljana	0,65	0,35
Celje	0,62	0,38
Koper	0,65	0,35
Kranj	0,71	0,29
Maribor	0,67	0,33
Murska Sobota	0,63	0,37

Nova Gorica	0,60	0,40
Novo Mesto	0,59	0,41
Slovenj Gradec	0,74	0,26
Σ M	589	p – M = 0,65
Σ F	315	p – F = 0,35
Σ Σ (N)	904	

Note: N- numerus; p – proportions; M – males; F - females

Table 2 – Structural proportions (according to gender) in individual regional units for the adapted programme for pre-school children in special class units

REGIONAL UNITS	p - M	p - F
Ljubljana	0,67	0,33
Celje	0,16	0,84
Koper	0,57	0,43
Kranj	0,65	0,35
Maribor	0,48	0,52
Murska Sobota	1,00	0,00
Nova Gorica	0,43	0,57
Novo Mesto	0,62	0,38
Slovenj Gradec	0,00	0,00
Σ M	162	p – M = 0,75
Σ F	55	p – F = 0,25
Σ Σ (N)	217	

Note: N- numerus; p – proportions; M – males; F – females

Table 3 – Structural proportions (according to gender) in both pre-school programmes

Structural proportions /M	Structural proportions /F
$Z_{0,05}(1000) = 1,96$	$Z_{0,05}(1000) = 1,96$
$Z = 0,26$	$Z = 0,02$

Note: M – male, F - female

Z test showed that the structural difference (according to gender) between the two pre-school programmes does not result statistically significant.

Table 4 – Structural proportions (according to gender) in each pre-school programme

Programme with the adapted curriculum and additional professional support (regular classes)	p – M = 0,63	p – F = 0,37
Adapted programme for pre-school children in special class units	p – M = 0,55	p – F = 0,45
$Z_{0,05}(1000) = 1,96$ $Z = 2,96$		

Note: p – proportions, M – males, F – females

According to the Z test the proportion of children placed in regular classes and special class units results statistically significant, the result being in favour of regular classes.

Table 6 – Structural proportions between the two pre-school programmes

Gender	The number of children	p
M	1193	0,62
F	745	0,38
$\Sigma (N)$	1938	
$Z_{0,05}(1000) = 1,96$ $Z = 15,11$		

Note: M - male, F - female, N- numerus; p - proportions

The Z test determined that the difference in the gender proportion results statistically significant, the result being in favour of male population. Numerus is higher because some children were placed more than one time.

Discussion

The aim of this research was to compare the operation of individual Commissions for Placement of Children with Special Needs, considering the issued Decisions on placing children with special needs in two pre-school programmes. It confirmed that the proportion of individual types of special needs is more or less even across the regional units. The proportion of children with special needs, placed into two pre-school programmes by expert commissions in different regional units, resulted more or less even. The research demonstrated that the commissions

follow the same professional standards in applying the existing legal norms. It established that there is no significant difference in the proportion of children (according to gender) between the two programmes. It confirmed that children with special needs are more often placed in the programme with the adapted curriculum and additional professional support carried out in regular classes (Orel, 2007: 182). It determined a statistically significant difference in the gender proportion; the result being in favour of male population (67% males and 33% females) in both pre-school programmes. With the results obtained, the research confirmed that the procedures of implementing early intervention by the Commissions for Placement of Children with Special Needs (and thus the corresponding legislation) are uniform throughout the Slovene national territory.

References

- Brejc, Mateja, Koren Andrej (2010): Uvajanje samoevalvacije v šolah in vrtcih kot pristop h kakovosti na nacionalni ravni. In Mateja Brejc, Andrej Koren, Maja Zavašnik Arčnik (Eds): Ugotavljanje in zagotavljanje kakovosti. Kranj: Šola za ravnatelje.*
- Developing a support service for learners with visual impairment (2013): Organisation of provision to support inclusive education, Thematic seminar, Seminar theme: Organisation and resourcing of in-class support. Malta: European Agency for Development in Special Needs Education.*
- Elementary School Act. Official Gazette of Republic of Slovenia. Ljubljana: No. 87/2011.*
- Globačnik, Bojana (2012): Zgodnja obravnava. Ljubljana: Zavod Republike Slovenije za šolstvo.*
- Kobal Grum, Darja, Kobal Bojan (2009): Poti do inkluzije. Ljubljana: Pedagoški inštitut.*
- Opara, Darko, Barle Lakota, Andreja, Globačnik, Bojana, Kobal Grum, Darja (2010): Analiza vzgoje in izobraževanja otrok s posebnimi potrebami v Sloveniji. Ljubljana: Pedagoški inštitut.*
- Orel, Rok (2007): Zdravstveno varstvo otrok na Slovenskem – pogled pediatra. In Damjan Jagodic (Ed.): Javnozdravstveni vidiki obravnave ogroženih in ranljivih skupin prebivalstva. Ljubljana: Ministrstvo za zdravje, sektor za zdravstveno varstvo ogroženih skupin prebivalstva.*
- Placement of Children with special Needs Act. Official Gazette of the Republic of Slovenia. Ljubljana: No. 58/2011.*
- Placement of Children with special Needs Act. Official Gazette of the Republic of Slovenia. Ljubljana: No. 54/2000.*
- Portal Ministrstva za izobraževanje, znanost in šport, Direktorat za*

- predšolsko vzgojo in osnovno šolstvo. Predšolska vzgoja (2014), Ljubljana: Available at <http://www.mizs.gov.si/> (13.1. 2014).*
- Surs (2013): Demografsko socialno področje, Ljubljana: Available at http://www.stat.si/tema_demografsko.asp (7. 6. 2013).*
- Surs (2012): Statistični portret Slovenije v Evropski uniji za leta 2008, 2009, 2010, 2011, 2012, Ljubljana: Available at <http://www.sta.si/publikacije> (5. 4. 2012).*

BIOLOGY STUDENTS' TEACHER OPINIONS ABOUT THE INTEGRATION OF ICT INTO THE LEARNING AND TEACHING PROCESS

Andreja Špernjak¹

Abstract

Biology laboratory work can be performed in various ways, even using information and communication technologies (ICT). Whether a teacher incorporates it into laboratory work is related to different factors, but educators can influence students' beliefs about the value of ICT through their pedagogical practice. In our study, student teachers of biology gave opinions on how successfully university professors use ICT in the classroom, where they acquired most knowledge about ICT and their attitude towards using of ICT in laboratory work. Student teachers were critical about the knowledge and usage of ICT of university professors in class. During their student teachers mostly failed to acquire knowledge about ICT and practice in incorporating it into daily routines. These results will be presented to our university professors, at which time we will suggest how they could use ICT more effectively in daily practice because, on the one hand, they are responsible for students teacher attitudes and for the level of student teacher knowledge, while, on the others, they precipitate indirectly in forming the pupils' attitudes and determining the level of the pupils' knowledge of ICT. The study was done on 85 student teachers of biology. Attitudes toward ICT are statistically significant by gender.

Key Words: gender studies, information and communication technology (ICT); media in education.

DOI: <http://dx.doi.org/10.12959/issn.1855-0541.IIASS-2014-no2-art08>

Introduction

Laboratory exercises are included in the learning process for many reasons. The basic purpose is the direct acquisition of knowledge that students will be able to use in further studies, the workplace (Eschenhagen et al. 1998: 496) or in everyday life. Laboratory work also has greater impact than traditional lecture teaching.

¹ Andreja Špernjak, PhD is an Assistant Professor at the University of Maribor (Faculty of Natural Sciences and Mathematics). Contact address: Andreja.spernjak(at)uni-mb.si

One factor that determines educational development and innovation in general is teachers, since they are the ones who use the ICT investment for educational development (Selwyn, 1999). Technology does not have educational value in itself. It becomes important when teachers use it in the learning-teaching process. Integration of ICT into the biology teaching process depends largely on the biology teachers. Teachers employ a different methods and forms of work, of ICT use and integration of various ways of working, deciding how best to transfer knowledge to learners (Ertmer, 1999) and only they decide how and why use ICT (Williams, 2000; Pelgrum, 2001). Pickersgill (1997) claimed that using ICT in the classroom makes the teaching-learning process more productive than without ICT. The decision to apply ICT can significantly affect the learning environment, the method of teaching (Niederhauser and Stoddart, 2001) and student attitudes towards computers. However, teachers need to be given an example and inspiration to work with ICT in the classroom, and this is the reason for our study of knowledge transfer and the influence of various factors on the use of ICT in education-vertically, from university professors to students in primary school (Figure 1).

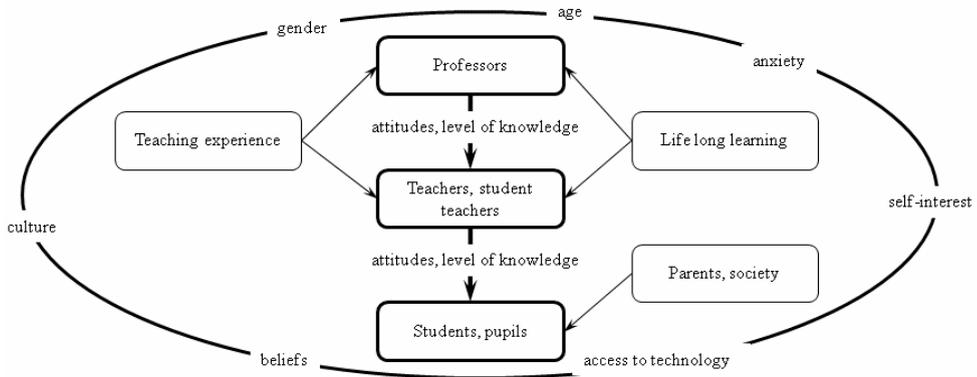


Figure 1: The transfer of knowledge and the impact of various factors on ICT attitude

What kind of skills in and attitudes toward ICT students and pupils have is related to teachers' and professors' attitudes and levels of knowledge (Pelgrum, 2001; Torkzadeh et al., 2006; Zhang, 2007; Paraskeva et al., 2008). Individual characteristics (gender, age) (Hartley and Bendixen, 2001) self-interes (Torkzadeh et al., 2006; Paraskeva et al., 2008), anxiety (Hong and Koh, 2002) culture (Torkzadeh et al., 2006; Albirini, 2006; Li and Kirkup, 2007) beliefs (Lim and Chan, 2007; Teo et al. 2008)

and access to technology (Hong and Koh, 2002) are certainly overall factors that affect ICT use in all groups: university professors, teachers, students teachers, students and pupils. Some factors are specific to each group: ICT attitudes, knowledge and use (Teo et al., 2008; Aydin, 2007) years of teaching experience (Hartley and Bendixen, 2001) experience in using ICT (Paraskeva et al., 2008; Bove'e, 2008) learning and teaching approach (Niederhauser and Stoddart, 2001; Teo et al., 2008a). Attitudes affect teachers' behaviours. Additionally, they have a considerable effect on openness to new experiences, as well as on reflecting and implementing change. Positive attitudes towards ICT, though limited in their effect, do support its use in classes. The effectiveness of ICT investment can be improved with their effective application in the classroom as part of the curriculum (Tezci, 2009).

In recent years, the teaching science subjects has increasingly involved computer-supported laboratory work, where a computer equipped with appropriate measuring equipment functions as a versatile measuring instrument with diverse applications. A computer equipped with an appropriate interface for data acquisition and control enabling a completely new and different dimension of education and the teaching of biology (Šorgo, 2006). Using the computer and the necessary accessory, students can do the following:

- carry out updated and more interesting current laboratory work,
- using an innovative combination of various measuring devices, benefit from new demonstration and independent laboratory work,
- enjoy improved visualization and
- gain a better idea of laboratory results, which can then be transferred to better understanding in situations of everyday life.

With ICT, pupils' learning achievements in science are better than without it (Chang, 2001; Tsai and Chou, 2002; Powell et al., 2003). Graff (2003) and Mikropoulos-Katsikis et al. (2003) consider that the use of ICT improves student's mental development and creativity. Meaningful and creative usage of ICT improves the processes of creative thinking (Wheeler et al., 2002). Cvjetičanin et al. (2013) reported that students who used computers have better knowledge than students who are not using computers in the learning process.

Wainwright (1989) and Morrell (1992) claimed some opposition to ICT usage in schools. They believe that traditional teaching methods are more beneficial than the usage of ICT, and that the use of computers has a negative impact on student behaviour and academic achievement. As noted by Ward and Parr [31] some teachers see no real need to use

computers when “traditional practices continue to work” and hence see “no clearly recognised need to change”.

The aim of the current study was to survey biology student teachers' opinions on and attitudes to ICT usage in the biology laboratory. We wanted to find out what skills and knowledge they had missed during university study, and how satisfied they were with the ICT knowledge and usage of university professors.

Materials and Methods

The participants for this study were student biology teachers who volunteered for this study. They were from the 3th and 4th university years at the Faculty of Natural Sciences, University of Maribor in Slovenia. All participants had some pedagogical practice in schools. They completed a questionnaire prepared for the purpose of the study. They completed it in electronic form. We collected 85 questionnaires from 72 women (84.7 %) and 13 (15.3 %) men, between 22 and 25 years old.

The questionnaire contained three parts. The first part of the questionnaire solicited demographic data such as age and gender. The second part concerned student teacher attitudes about laboratory work and the use of ICT during laboratory work (see Table 1). The answers were measured by a 5-point Likert scale. The scale questionnaire was as follows: 1 = definitely disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = definitely agree. Student teachers were to formulate opinions about the quality of their university professors' usage of ICT during lectures. The scale questionnaire was as follows: 1 = they are outdated; 2 = poor; 3 = good; 4 = very good; 5 = excellent. Results are presented as means [M] and standard deviations [SD]. The third part was an open question about what knowledge they failed to acquire during university study. We grouped similar answers in to seven complexes which describe the same answers.

The reliability of the questionnaire was measured by the Cronbach coefficient. The Cronbach reliability coefficient was 0.69 for the 20-item scale, which can be considered satisfactory. Microsoft® Excel 2007 was used for data input. The analyses were performed with the statistical package SPSS 17.0, where we used descriptive statistics; One-way ANOVA was used to examine differences in opinions by student teacher's gender. The Chi-Square test (χ^2) was used for comparison of differences between results from the student teachers opinions about the quality of university professors' usage of ICT during lectures.

The responses were analysed using main components analysis, and then the varimax rotation method was applied. The factor loadings and reliability of the items in the scale were re-calculated. The congruence of the data to the main components analysis was examined using the Kaiser–Meyer–Olkin (KMO) coefficients and Bartlett’s Sphericity test. That the value of the KMO was (0.70) and the result of the Bartlett test ($\chi^2_{(190)} = 394.76$) was significant ($p < 0.01$) indicate that the data are appropriate for the analysis. The results of main components analysis reveal that the eigenvalue of 20 items concentrate on seven factors that are higher than one.

Results

For the purpose of the study, we asked student biology teachers where they had acquired most of their knowledge about ICT. There are statistically significant differences between results for where they acquired the most ICT knowledge is ($\chi^2_{(3)} = 43.80$; ($p < 0.01$)). One student (1.2 %) answered that he / she still lacked such skills and knowledge. 12 (14.2 %) student teachers acquired their ICT knowledge from friends, relatives or acquaintances; 36 (42.3 %) student teachers acquired most of their knowledge about ICT by themselves, and similar results apply to students who acquired their ICT knowledge in primary or secondary school or in classes at university (N = 36; 42.3 %).

From the results we can see that students mostly learned about ICT in their leisure time and not in class time. We can conclude that they probably have only limited trust in teachers when it comes to ICT knowledge, because 80 (94.1 %) student teachers never took extra lecture courses about ICT and only 5 (5.9 %) student teachers used it ($\chi^2_{(1)} = 66.18$; ($p < 0.01$)).

The student teachers rated the knowledge and usage of ICT among university professors ($\chi^2_{(3)} = 47.00$; ($p < 0.01$)). They were quite critical, because 8 (9.4 %) student teachers claimed that the knowledge and usage of ICT among university professors was outdated; 31 (36.5 %) called it poor; 42 (49.4 %) good and 4 (4.7 %) very good. Not one student teacher expressed the opinion that university professors’ knowledge and usage of ICT was excellent. These results indicate that our university professors lack sufficient knowledge of and skills in the digital competences that they should be transferring to students.

Table 1 represents the findings concerning student teachers’ opinions – by gender – about the use of ICT for professional work. We can conclude that female student teachers are not as receptive to ICT in professional work as male student teachers, because there is a

statistically significant difference between them on the statement, "Working with a computer cannot improve the quality of teaching". More male student teachers disagree to a statistically significant degree with this statement than do female students. Almost the same applies to the statement, "The amount of knowledge gained outweighs the work of preparation time using a computer" and, "Computer-supported laboratory does not achieve higher cognitive levels (application, analysis, evaluation) skills than the classical method of laboratory work performance" (Table 1). For other student teacher opinions, there are no statistically significant differences.

Table 1: Opinions, by gender, about laboratory work and usage of ICT in biology laboratory work

Opinion	gender	M	SD	F	p
Working with computers cannot increase the quality of my professional work.	m*	1.38	0.51	5.51	0.02
	f*	1.89	0.74		
Working with a computer cannot improve the quality of teaching.	m	1.38	0.51	3.65	0.06
	f	1.76	0.68		
Students should be involved in planning the laboratory experiments.	m	3.85	0.90	0.06	0.81
	f	3.79	0.71		
The amount of knowledge gained outweighs the work of preparation time using a computer.	m	2.08	0.64	8.44	0.01
	f	2.85	0.91		
Laboratory exercises constitute extra work and loss of time.	m	1.38	0.51	0.09	0.77
	f	1.44	0.69		
The most effective method for implementating laboratory exercises is demonstration experiments.	m	2.38	1.26	0.35	0.56
	f	2.21	0.93		
I would be embarrassed in front of students if I did not know the final results of laboratory work.	m	3.00	1.00	0.35	0.56
	f	2.81	1.11		
If a person who to offer technical assistance were available, I would use computers in the classroom more often.	m	2.23	0.73	0.69	0.41
	f	2.46	0.93		
Computer-supported laboratory is not an appropriate lesson for students to work independently, because they have difficulty working with computerized gauges.	m	1.23	0.60	4.42	0.04
	f	1.75	0.85		
Students copy a lot of information from the Internet; computers in schools should be prohibited.	m	2.62	0.65	0.26	0.61
	f	2.74	0.81		
Computer-supported laboratory does not achieve higher cognitive level (application, analysis, evaluation) skills than the classical method of laboratory work performance.	m	2.62	1.19	0.36	0.55
	f	2.42	1.08		
Classic laboratory work can be adequately replaced by computer simulation and animation.	m	1.92	0.64	0.50	0.48
	f	1.75	0.84		
Skills gained in laboratory work are not important for students' future professional	m	2.15	0.99	1.46	0.23
	f	2.47	0.86		

and academic performance.					
Computer use in laboratory work is currently popular because it results in better-quality laboratory work.	m	2.23	1.01	1.10	0.30
	f	2.56	1.03		
Most of the tasks I can perform as effectively as a computer.	m	3.23	1.36	0.80	0.38
	f	2.94	1.01		
Each new development in the school system is welcome and does not disturb stable and tested ways of working.	m	1.77	0.83	1.74	0.19
	f	2.11	0.87		
The most efficient performance of laboratory work is computer-supported laboratory.	m	2.54	0.88	0.10	0.75
	f	2.46	0.84		
Because I lack adequate instructions for teachers or other literature for preparation of laboratory work by computer, I need substantially more time and energy than for preparation of classic laboratory work.	m	2.62	0.65	1.96	0.17
	f	2.99	0.91		
The knowledge gained through laboratory work in one subject cannot be applied to another subject.	m	2.00	0.41	1.53	0.22
	f	2.29	0.83		
No one has yet shown me how the computer can be used with additional equipment in the laboratory as a measuring instrument.	m	2.77	1.48	0.81	0.37
	f	3.14	1.35		

*male = m, * f = female

With the KMO coefficients and a Bartlett Sphericity test, the results of main components analysis reveal that the eigen value of 20 items concentrates on seven factors that are higher than one (Table 2).

With the first component, we can describe 15.03 % of Variances, including student teachers who disagree with the following statements: Working with computers cannot increase the quality of my professional work; Working with a computer cannot improve the quality of teaching. Laboratory exercises constitute extra work and loss of time; Students copy a lot of information from the Internet; computers in schools should be prohibited. This component comprises student teachers who think that computer is a very good teaching tool that should be used in everyday teaching practice and those who see a positive value in laboratory work.

With the second component, we can explain 9.08 % of Variances, including student teachers who concur with these opinions: Computer-supported laboratory does not achieve higher cognitive level (application, analysis, evaluation) skills than the classical method of laboratory work performance; Skills gained in laboratory work are not important for students' future professional and academic performance.

This component includes student teachers who will not use the computer in the classroom often, although they have a person available who could offer technical assistance. This component comprises student teachers who think that computers in laboratory work are not as important for learners and those who probably will not use the computer in everyday teaching practice, regardless ICT capability and the presence of technical staff.

Table 2: Factor Analysis Rotated Component Matrix of teacher opinions

Opinion*	Component						
	1	2	3	4	5	6	7
1.	0.83	0.09	-0.15	0.10	-0.01	0.12	0.03
2.	0.78	0.21	-0.09	0.09	0.01	0.03	0.15
3.	0.05	-0.12	-0.03	-0.01	0.78	-0.13	-0.01
4.	0.18	-0.02	0.10	-0.04	-0.08	0.77	0.00
5.	0.55	-0.03	0.29	-0.27	-0.35	0.25	-0.04
6.	0.10	0.06	0.78	0.17	-0.10	0.08	0.05
7.	0.08	-0.09	0.06	0.81	0.00	0.00	0.05
8.	0.15	-0.69	0.06	0.34	-0.02	-0.23	-0.14
9.	0.25	-0.14	0.20	0.26	-0.46	0.18	0.16
10.	0.56	0.19	0.32	0.22	-0.06	0.22	0.31
11.	0.26	0.69	-0.17	0.12	-0.01	0.05	-0.24
12.	0.23	-0.32	0.26	-0.34	0.27	0.06	-0.60
13.	0.37	0.60	0.11	-0.06	-0.01	-0.33	0.16
14.	0.37	0.14	0.09	0.29	0.00	0.53	0.29
15.	0.08	0.29	0.14	0.37	0.61	0.36	0.04
16.	0.31	0.11	0.29	0.37	-0.36	0.05	-0.02
17.	-0.25	-0.30	0.69	-0.06	-0.01	0.00	-0.14
18.	0.38	-0.07	0.37	0.16	0.22	-0.46	-0.03
19.	0.24	-0.11	0.02	-0.09	0.04	0.09	0.86
20.	0.45	-0.21	0.13	0.39	0.06	0.00	-0.12

* See Table 1 for a list of the statements

With the third component, we can explain 8.64 % of Variances, including teachers who agree with these opinions: The most effective method for implementation laboratory exercises is demonstration experiments; the most efficient performance of laboratory work is computer-supported laboratory. In the third component, teachers address the effectiveness of different methods of laboratory work. This 8.64 % of Variance group think that demonstration experiments and computer-supported laboratory are more effective for implementation laboratory exercises than other methods of laboratory work: i. e. classic, simulation or animation.

With the fourth component, we can explain 8.51 % of Variances, including student teachers' beliefs on just one point: I would be

embarrassed in front of students if I did not know the final results of laboratory work. Student teachers who agree with this statement are not very self-confident, because teacher should be adaptable to different laboratory work conditions. In any biology laboratory, some experiments will not be successful and the results may be unexpected, but the teacher should explain such situations in a reasonable way.

With the fifth component, we can explain 7.98 % of Variances, including student teachers who concur with these opinions: Students should be involved in planning the laboratory experiments. Most of the tasks I can perform as effectively as a computer. In this component student teachers are more dependent on human resources than on technical ones.

With the sixth component, we can explain 7.87 % of Variances, including student teachers who concur with these opinions: The amount of knowledge gained outweighs the work of preparation time using a computer; Computer use in laboratory work is currently popular because it results in better-quality laboratory work. In the sixth component, student teachers approve of laboratory work with computers but perhaps only until the next technical innovation.

With seventh and the last component, we can explain 7.30 % of Variances, including student teachers who disagree with these opinions: The knowledge gained through laboratory work in one subject can be applied to another subject. Classic laboratory work can adequately replace computers simulations and animations. From this statement, we can see that student teachers lack sufficient work practice, because in our previous study we confirmed that the contribution to pupils' knowledge was almost the same regardless of the method of laboratory work (Špernjak and Šorgo, 2010).

In the questionnaire we put one open question about what content they might have missed during their studies. Some student teachers gave more than one answer, so we got 91 answers. Biology student teachers mostly lack knowledge about using ICT in the classroom (N = 39; 42.9 %). They want more practice in the classroom (N = 12; 13.2 %); 8 student teachers (8.8 %) lacked knowledge of other Science disciplines (Chemistry, Physics) or foreign languages (English); 6 (6.5 %) want more didactic and psychology knowledge; 5 (5.5 %) student teacher want more practice and knowledge in communication (rhetorical knowledge), and 4 (4.4 %) student teachers lack current information and news about Science. The other 17 (18.7 %) answers belonged in some

of these groups, so we called it Other Answers'. There are statistically significant differences between results ($\chi^2_{(6)} = 70.15$; $p < 0.01$).

Discussion

Teachers carry out laboratory work in various ways. Some even include ICT. Many factors influence teachers' usage of ICT in the classroom. One of the keys is the teachers' attitude towards and perspective on ICT usage in the classroom. Teachers may influence students' beliefs about the value of ICTs through their pedagogical practice (Veriki, 2010).

The results of this study suggest that student biology teachers will probably not make much use of ICT in teaching practice, because they were deprived such knowledge and experience during their studies. 46.1% of students believe that knowledge and use of ICT among university professors is poor. At the time of the study, student teachers generally lacked knowledge of computer literacy and knowledge about computer usage in the classroom and the laboratory. This can be corroborated by responses to the statement, "No one has yet shown me how the computer can be used with additional equipment in the laboratory as a measuring instrument". With such a lack of experience, student teachers will not inspire a positive attitude to ICT on the part of pupils, although our previous studies confirm that pupils prefer to carry out exercises with computer-supported laboratory (Špernjak and Šorgo, 2009).

We believe that only a few teachers will acquire further skills in the field of ICT in an already crowded curriculum. This is confirmed by the results, where only 5.9 % of student teachers took extra ICT training during study time. We can conclude that education in the field of ICT for most student teachers our testing group is completed, unless they should happen to use it during the working process.

Brosnan (1998) established that boys are more inclined to use computers than girls of the same age (Graff, 2003; Kubiátko and Haláková, 2009). We also confirm this on the basis of the statement; "Working with a computer cannot improve the quality of teaching", where males' student teachers disagreed, while female student agreed. There is a statistically significant difference between genders on this statement. This argument suggests that female student teachers are not as frequent users of ICT in teaching, and therefore will not develop a positive attitude towards the use of ICT by pupils. Consequently, the pupils will develop fewer digital skills and competences.

Conclusion

We can conclude that university professors are responsible for the development of digital literacy among biology students' teachers and the usage of ICT. University professors should set future teachers a better example of ICT usage in the classroom, so that they can foster knowledge, skills and attitudes in their pupils.

On the basis of the statement: "Most of the tasks I can perform as effectively as a computer", we can conclude that student teachers of biology do not have positive attitudes toward computers and other ICT because most agreed with this statement.

Resources

- Albirini, A. (2006). Teachers' attitudes toward information and communication technologies: The case of Syrian EFL teachers. *Computers & Education*, Vol.: 47, No. 4, pp. 373–398. DOI: 10.1016/j.compedu.2004.10.013
- Aydin, S. (2007). Attitudes of EFL learners towards the Internet. *The Turkish Online Journal of Educational Technology – TOJET*, Vol.: 6, No.: 3, pp. 18-26.
- Bove'e, C., Voogt, J. and Meelissen, M. (2007). Computer attitudes of primary and secondary students in South Africa. *Computers in Human Behavior*, Vol.: 23, pp. 1762–1776. DOI: 10.1016/j.chb.2005.10.004
- Brosnan, M.J. (1998). The role of psychological gender in the computer-related attitudes and attainments of primary school children (aged 6-11). *Computers & Education*, Vol.: 30, No.: 3-4, pp. 203–208. DOI: 10.1016/S0360-1315(97)00070-5
- Chang, C. Y. (2001). Comparing the impacts of a problem-based computer-assisted instruction and the direct-interactive teaching method on student science achievement. *Journal of Science Education and Technology*, Vol.: 10, No.: 2, pp. 147-153. DOI: 10.1023/A:1009469014218
- Cvjetičanin, S., Pećanac, R., Sakač, M. and Djurendić-Brenesel, M. (2013). Computer Application in the Initial Education of Children in Natural Sciences. *Croatian Journal of Education*, Vol.: 15, No.: 1, pp. 87-108.
- Ertmer, P. A. (1999). Addressing first- and second-order barriers to change: Strategies for technology integration. *Educational Technology Research and Development*, Vol.: 47, No.: 4, pp. 47–61. DOI: 10.1007/BF02299597
- Eschenhagen, D., Katmann, U. and Rodi, D. (1998). *Fachdidaktik Biologie*. 4. Edition, (Ed.) Ulrich Kattman. <aulis Verlag Deubner, Köln. pp. 496.

- Graff, M. (2003). Cognitive style and attitudes towards using online learning and assessment methods. *Electronic Journal of e-Learning*, Vol.: 1, No.: 1, pp. 21-28.
- Hartley, K. and Bendixen, L. D. (2001). Educational research in the Internet age: Examining the role of individual characteristics. *Educational Researcher*, Vol.: 30, No.: 9, pp. 22-26. DOI: 10.3102/0013189X030009022
- Hong, K-S. and Koh, C. K., (2002). Computer anxiety and attitudes towards computers among rural secondary school teachers: A Malaysian Perspective. *Journal of Research on Technology in Education*, Vol.: 35, No.: 1, pp. 27-48.
- Kubiátko, M. and Haláková, Z. (2009). Slovak high school students' attitudes to ICT using in biology lesson. *Computers in Human Behavior*, Vol.: 25, No.: 3, pp. 743-748. DOI: 10.1016/j.chb.2009.02.002
- Li, N. and Kirkup, G. (2007). Gender and cultural differences in Internet use: A study of China and the UK. *Computers & Education*, Vol.: 48, pp. 301–317. DOI: 10.1016/j.compedu.2005.01.007
- Lim, C. P. and Chan, B. C. (2007). MicroLESSONS in teacher education: Examining pre-service teachers' pedagogical beliefs. *Computers and Education*, Vol.: 48, No.: 4, pp. 474–494. DOI: 10.1016/j.compedu.2005.03.005
- Mikropoulos-Katsikis, A., Nikolou, E. and Tsakalis, P. (2003). Virtual environments in biology teaching. *Journal of Biological Education*, Vol.: 37, pp. 176-181. DOI: 10.1080/00219266.2003.9655879
- Morrell, D. (1992). The effects of computer-assisted instruction on student achievement in high school biology. *School Science and Mathematics*, Vol.: 92, pp. 177-181. DOI: 10.1111/j.1949-8594.1992.tb12168.x
- Niederhauser, D. S. and Stoddart, T. (2001). Teachers' instructional perspectives and use of educational software. *Teaching and Teacher Education*, Vol.: 17, pp. 15-31. DOI: 10.1016/S0742-051X(00)00036-6
- Paraskeva, F., Bouta, H., and Papagianni, A. (2008). Individual characteristics and computer self-efficacy in secondary education teachers to integrate technology in educational practice. *Computers & Education*, Vol.: 50, pp. 1084–1091. DOI: 10.1016/j.compedu.2006.10.006
- Pelgrum, W. J. (2001). Obstacles to the integration of ICT in education: Results from a worldwide educational assessment. *Computers and Education*, Vol.: 37, No.: 3, pp. 163–178. DOI: 10.1016/S0360-1315(01)00045-8
- Pickersgill, D. (1997). IT and science teaching – the past and the future. *School Science Review*, Vol.: 79, No.: 287, pp. 25-27.

- Powell, J. V., Aebyb Jr., V. G. and Carpenter-Aebyc, T. (2003). A comparison of student outcomes with and without teacher facilitated computer-based instruction. *Computers & Education*, Vol.: 40, pp. 183-191. DOI: 10.1016/S0360-1315(02)00120-3
- Selwyn, N. (1999). Students' attitudes towards computers in sixteen to nineteen education, *Education and Information Technologies*, Vol.: 4, No.: 2, pp.129-141.
- Šorgo, A. (2006). Dichotomous identification keys: a ladder to higher order knowledge about human body. *Sci Activity*. Vol.: 43, pp. 17–20. <http://dx.doi.org/10.3200/SATS.43.3.17-20>
- Špernjak, A. and Šorgo, A. (2010). The contribution of different types of laboratory work to students' biological knowledge. *Contemporary Issues in Education*, Vol.: 1, No.: 2, pp. 246-254.
- Špernjak, A. and Šorgo, A. (2009). Comparison of Attitudinal Differences with three Different Styles of biological Laboratory Exercises among Elementary School Students (Primerjava priljubljenosti treh različnih načinov izvedbe bioloških laboratorijskih vaj med osnovnošolci). *Didactica Slovenica – Pedagoška obzorja*, Vol.: 24, No.: 3-4, pp. 68-86.
- Teo, T., Lee, C. B. and Chai, C. S. (2008a). Understanding pre-service teachers' computer attitudes: Applying and extending the Technology Acceptance Model (TAM). *Journal of Computer-Assisted Learning*, Vol.: 24, pp. 128–143. DOI: 10.1111/j.1365-2729.2007.00247.x
- Teo, T., Lee, C.B. and Chai, C. S. (2008). Beliefs about teaching and use of technology among pre-service teachers. *Asia-Pacific Journal of Teacher Education*, Vol.: 36, No.: 2, pp. 163-174. DOI: 10.1080/13598660801971641
- Tezci, E. (2009). Teachers' effect on ICT use in education: the Turkey sample. *Procedia Social and Behavioral Sciences*, Vol. 1, pp. 1285-1294. DOI: 10.1016/j.sbspro.2009.01.228
- Torkzadeh, G., Chang, J. C., and Demirhan, D. (2006). A contingency model of computer and Internet self-efficacy. *Information and Management*, Vol.: 43, pp. 541-550. DOI: 10.1016/j.im.2006.02.001
- Tsai, C-C. and Chou, C. (2002). Diagnosing students' alternative conceptions in science. *Journal of Computer Assisted Learning*, Vol.: 18, pp. 157-165. DOI: 10.1046/j.0266-4909.2002.00223.x
- Veriki, I. (2010). Boys' and girls' ICT beliefs: Do teachers matter? *Computers & Education*, Vol.: 55, pp. 16–23. DOI: 10.1016/j.compedu.2009.11.013
- Wainwright, C. L. (1989). The effectiveness of a computer-assisted instruction package in high school chemistry. *Journal of Research in Science Teaching*, Vol.: 26, pp. 275-290. DOI: 10.1002/tea.3660260402

- Ward, L. and Parr, J. M. (2010). Revisiting and reframing use: implications for the integration of ICT. *Computers & Education*, Vol.: 54, No.: 1, pp. 113–122. DOI: 10.1016/j.compedu.2009.07.011
- Wheeler, S., Waite, S., J. and Bromfield, C. (2002). Promoting creative thinking through the use of ICT. *Journal of Computer Assisted Learning*, Vol.: 18, pp. 367-378. DOI: 10.1046/j.0266-4909.2002.00247.x
- Williams, D., Coles, L., Wilson, K., Richardson, A. and Tuson, J. (2000). Teachers and ICT: Current use and future needs. *British Journal of Educational Technology*, Vol.: 31, No.: 4, pp. 307–320. DOI: 10.1111/1467-8535.00164
- Zhang, J. (2007). A cultural look at information and communication technologies in eastern education. *Educational Technology Research and Development*, Vol.: 55, pp. 301-314. DOI: 10.1007/s11423-007-9040-y

THE PROPOSED METHODOLOGIES FOR THE SIX SIGMA METHOD AND TQM STRATEGY AS WELL AS THEIR APPLICATION IN PRACTICE IN MACEDONIA

Elizabeta Mitreva¹, Nako Taskov², Sonja Rizovska Jovanovska³

Abstract

This paper presents the proposed methodologies for the Six Sigma method and the TQM strategy as well as their application in practice in Macedonia. Although the philosophy of the total quality management (TQM) is deeply involved in many industries and business areas of European and other countries it is insufficiently known and present in our country and other developing countries. The same applies to the Six Sigma approach of reducing the dispersion of a process and it is present in a small fraction in Macedonian companies. The results of the implementation have shown that the application of the Six Sigma approach does not refer to the number of defects per million opportunities but to the systematic and systemic lowering of the dispersion process. The operation and effect of the implementation of the six sigma method engages experts that receive a salary depending on the success of the Six Sigma program. On other hand the results of the application of the TQM methodology within the Macedonian companies will depend on the commitment of all employees and their motivation.

Keywords: TQM strategy, Six Sigma method, methodology, motivation.

DOI: <http://dx.doi.org/10.12959/issn.1855-0541.IIASS-2014-no2-art09>

Introduction

The essence of the Six Sigma method

The Six Sigma approach is a method to all processes, products and companies. It was first developed at Motorola in 1986 whose products are a well-known market brand. Today, the application of the Six Sigma

1 PhD Elizabeta Mitreva is an Assistant Professor at the Faculty of Tourism and Business Logistics, Goce Delcev University, Shtip, Macedonia. (elizabeta.mitreva@ugd.edu.mk)

2 PhD Nako Taskov is the Professor at the Faculty of Tourism and Business Logistics, Goce Delcev University, Shtip, R.Macedonia. (nako.taskov@ugd.edu.mk)

3 PhD Sonja Rizovska Jovanovska is an Assistant Professor at the Faculty of Tourism and Business Logistics, Goce Delcev University, Shtip, Macedonia. (sonjarizoska@yahoo.com)

method has become a worldwide trend caused by the economic achievements of Motorola, process-oriented and product quality improvement practices (Coronado et al. 2002:92).

The company Allied Signal has published the profit of \$ 800 million, generated in the period from 1995 to 1997, as a result of promotions, following the Six Sigma method.

The company General Electric (GE) in the third quarter of 1997 realized \$ 600 million (up from 13.8% to 14.5%), owing to the application of the Six Sigma method. This company in 1999 achieved a profit of 2 billion dollars. For the company, the Six Sigma method presents a vision of quality expressed with only 3.4 defects per million opportunities for each product or service.

In year 2000, the company Ford Motor Co claimed that it is the first "automaker" which uses the Six Sigma method for improving business processes and product quality.

The Six Sigma method for many authors (Breyfogle, 2003) presents a means to improve the processes by finding and eliminating errors, as well as to detect the causes of errors or defects in processes, with specific analysis output parameters that are important to customers and users.

Processes are implemented in different ways by technological schemes which affect people, materials, machines, and methods, as well as internal and external factors. Therefore, one of the tasks of the top management is to fight with the deviations of the process and retain it within its minimum limits by applying the Six Sigma method. The costs for additional processing and finishing of the defective products are reduced if unauthorized deviations are identified earlier. This falls in the price of low quality. In practice, the application of the Six Sigma method is required to meet certain conditions (Reichheld et al., 2006).

Factors for successful implementation of the Six Sigma method

A prerequisite for the successful implementation of the Six Sigma program is having a modern management, i.e. strong leadership in particular.

The spreading of this concept requires a certain social and cultural level of the environment (habits and mentality of employees), infrastructure creation and development of the company's corporate culture.

The basic concept of the Six Sigma method is defined by Motorola, according to the classical scheme of continuous improvement and quality improvement by applying PDCA cycle (Deming's cycle).

Today, the most commonly used cycle is the DMAIC (Define, Measure, Analyze, Improve and Control), (Adler, 2006).

Besides this methodology, the IDDOV cycle is being used too. This cycle consists of following phases: identification, definition, design,

optimization and validation and is intended to create a new product or process.

Both methodologies define the steps for running a Six Sigma program in order to improve and help the team towards the fulfillment of the main goal. Furthermore, it will explain the methodology of the DMAIC cycle. The Six Sigma methodology goes through several steps:

Step 1: Identification of the problem.

Through identification of problems, both the purpose and framework of the project are defined and are identifying the problem that should be solved on the road to achievement of specified levels of tolerance.

Step 2: Measure the current situation.

The measurement is performed by using the appropriate methods and techniques to collect data and provide information on the current situation. Based on the data and information, the baseline levels of performance are being assessed, as well as the indicators and selected problems that require special attention.

Step 3: Analyze the problem and possible causes.

It is done through analysis for identification of the primary (main) cause of problems for quality assurance (by checking the data, using special methods and techniques for data analysis, etc.).

Step 4: Suggestions for improvement.

This step isolates the problem and provides models for improving business processes which are applied to real processes.

Step 5: Control of the implementation of improvements.

The purpose of the fifth stage - the control, is evaluation and monitoring of the results of the previous stages. At this stage, verification of the modification of the system is being performed. New rules, procedures, instructions to staff and other norms of operation are being created. Each of these stages requires application of special analytical and mathematical methods out of a wide range of methods. An important point in the implementation of the Six Sigma method is the distribution of the roles of specialists.

For each step, implementers are being entitled with the following roles:

Leader (Champion) – is a member of the top management of the company who has the obligation to accept the proposed solutions of the Six Sigma project and to ensure its implementation. The leader has the task to create a climate and conditions, and to provide the necessary resources;

Black Belt is awarded to an employee according to his specialist knowledge of high class or an expert in the field of the Six Sigma approach. The employee prepares the project team, manages and performs training. He or she undertakes full responsibility for the complete execution of the program for acquiring the necessary skills in the team;

Project group exercise program for the Six Sigma is comprised of employees who implement the Six Sigma project. They are specialists in certain areas within the project Six Sigma, who have passed the training and are great support during the project implementation and work according to their knowledge.

Belts in applying the six sigma method:

- the difference in terms of the TQM strategy;
- each zone has a well-defined content to be learned;
- the introduction of the Six Sigma methodology starts with team formation, and then continues with education.

The major advantage of applying the Six Sigma method is to increase the viability and profit at the expense of reducing direct costs, while increasing the customer's and user's satisfaction. By reducing the number of defects and cutting production cycle, productivity is being increased. The value of the Six Sigma method can determine the cost of poor quality. The Six Sigma methodology was applied in Macedonian Public Revenue Office in terms of improving services to citizens or taxpayers (Mitreva & Filiposki, 2012b:33).

The promotion was aimed at the business process where applications file tax returns.

The progress of implementation of the Six Sigma method went through the following steps (Mitreva & Filiposki, 2012b:33):

Step 1: Identification of the problem.

In the process of identifying the problems, the following was noted:

- long waiting line in front of the counters for filing tax returns every 25th of the month;
- frequent wrong filed forms;
- waiting again for corrections;
- transportation costs of applications received by the center for data processing;
- errors occurring in the data processing of tax report.

Due to the problem of long waiting in front of the counters caused by filing tax returns by taxpayers and errors that occur because of

erroneous forms and omissions, the top management decided to overcome this problem.

Step 2: Measuring the current situation.

Through measurement and analysis of the current situation Six Sigma team concluded that:

- taxpayers spend a long time waiting in front of the counter;
- in order to serve more customers more employees are needed, as well as more employees are needed to perform the receipt of applications at the counter;
- need more staff to contact tax bonds that have errors in the submitted report.

All these abnormalities cause additional costs for the customers, as well as financial losses and wasted time for Office management.

Step 3: Analyze the problem and possible causes.

Top management of the Office decided to advance the business process in terms of reducing waiting time for filing tax returns, reducing errors in the preparation and reducing errors when processing them.

Step 4: Suggestions for improvement.

Starting from the motto of the Office "customer above all", management decided to have a system for electronic filling and processing of applications. For this purpose it has designed and implemented an integrated information system that fully meets the needs of taxpayers, respecting the standard operative procedures (SOP).

Step 5: Control of the implementation of improvements.

In this step, assessment and monitoring of the results of previous stages is made. At this stage to the new system and new rules, procedures and instructions for employees are verified.

After application of the improvements, by out repeated measurements, the following results have been obtained:

- reduced crowds in front of the counters;
- reduced number of employees to serve customers;
- reduced number of employees processing tax returns;
- reduced cost of transporting report of all the regional offices to the center for data processing;
- reduced errors in the report and contacts with taxpayers for their correction.

The effects of the implementation of the Six Sigma method in management are recognized in cost savings during operation regarding

the perpetrators of the process. Some employees are seconded to other jobs and optimization of the business processes.

Because of the positive results from the implementation of the decision, top management decided to apply this methodology to other business processes.

The Six Sigma methodology was applied in the enterprise for airport services "Alexander the Great" in Macedonia in the business process for ground handling of aircraft, in order to meet the needs of air carriers (Chepujnoska & Mitreva, 2008:45). With great effort, the team uses the Six Sigma method to optimize business process serving airline. Practice has shown that it is insufficient.

The company can count on success in the future if it offers innovation and continuously enhances its processes. Increased application of the Six Sigma methodology in terms of commitment to the stability of the process is opposite from the incentive to innovation that deviate from the rules. The innovational approach leads to variations in the manufacturing process, unusual solutions, insufficient training, or anything that fights against the Six Sigma method.

The Six Sigma method is characterized by quality close to perfection but also in many companies, especially in the development of complex programs for quality assurance, made up of million steps, the level of Six Sigma approach is insufficient for achieving a high level of satisfaction of customers / users.

The essence of TQM strategy

The new TQM (Total Quality Management) strategy for quality requires new activities in the field of education employees, introducing standardization of all processes, introducing statistical process control to non-defect work, a new approach to the analysis of costs. This requires a scientific, methodical, planned approach, persistence and thoroughness. At the same time, it means a drastic change in the behavior of employees, radical changes in organizational structure, clearly defining the rights, obligations and responsibilities of each individual. The application of the new philosophy of total quality management (TQM) is related to the selection of appropriate people for the realization of all activities in accordance with education, motivation and ability of employees.

The TQM philosophy introduces new key changes in access to quality. The first change refers to the establishment process of continuous improvement in all segments of the organization by involving all employees to meet the needs of the customers.

Following the interpretation of the European Foundation for Quality Management (EFQM), the importance of the total quality management

(EFQM, 1992) is defined as "Management strategies for achieving excellence in the organization and its results."

In countries with long term transition as R. Macedonia where passive-import oriented strategy prevails, the profits in the economy are realized mainly by imports.

Macedonian companies take poor care of quality. Insufficient attention is given to continuing education and there is no investing in innovation. In Macedonia, only a small number of companies have built a quality system. Little attention is paid to employees, customers, suppliers and the community. There is also poor application of statistical process control (SPC) and teamwork is considered a return to the past. In short, the methodology for technological development is unknown in Macedonia, and an integral model for the design and implementation of TQM (Total Quality Management) system in Macedonian companies is missing.

This paper developed a universal, integrated methodology for design and implementation of TQM system in Macedonian companies (Mitreva, & Filiposki, 2012:251), which should help provide useful guidance to all Macedonian companies that tend to be organizations of "world class".

Integral methodology for designing and implementing TQM system companies

The foundation in creating this model is the redesign or reengineering of business processes, after which a new phase in the business - continuous improvement or Deming Quality cycle (Plan-Do-Check-Act) starts.

The need for reengineering can occur in companies that are in a major crisis or foreseen that the crisis will soon come. The application of reengineering is present in companies that are in good standing and have the potential for development and growth but also tend to be in trend with the needs of the global market. The reengineering achieves narrow specialization of work and great autonomy in performing the tasks.

Integral methodology for designing and implementing the TQM system consists of multiple methodologies: Subsystem methodologies - internal standardization; subsystem methodologies - Statistical Process Control (SPC); methodology for analyzing the total cost of a given process; subsystem methodologies - Education; Methodology about evaluating the success of projected and implemented system for TQM (Audit).

Benefits of the proposed methodology

The model - methodology (Mitreva, at.al, 2013:26) that is proposed here is integral and universal, meaning that it is applicable to all companies

regardless of the industry they belong to. The success of its implementation depends on the integration of information technology with intern standardization, methods and techniques for non-defect production, system for cost analysis and continuous education, as well as motivation of employees to provide competitive advantage. Integral methodology for designing and implementing the TQM system has feedback as a result of the necessity of ongoing improvement of business processes. By spiral repetition of such cycles, we see the benefits of the application with the changing organizational culture to such initiatives and an incentive to higher goals of excellence.

This methodology is not only successful in the implementation of improved business processes in Macedonian companies, but will also raise the awareness of employees about their quality and focus on increasing customer satisfaction. Without the commitment of top management to set goals for quality and consistency in their implementation, these efforts will only be wasting time and money, while at the same time they will reduce the possibility of following such a successful initiative.

The benefit of implementing this methodology is not only increased commitment of top management and employees to improve processes and satisfy customers, employees, shareholders, suppliers and the community, but also increase the business results of companies that continue to serve as the driving force for continuous improvements.

However, it should be noted that without education in these areas and continuous education for managers and all employees, application of this methodology is not possible - it won't be possible for benefits from the quality system to be evaluated. Besides education, motivation is also an important driving force for achieving system total quality management.

A fragment of the proposed methodologies for subsystems of the house of quality were implemented in several companies from different economic sectors. Good results were shown in practice, which implies that the proposed methodology is applicable.

For this purpose, QC-CE (Quality Cycle & Cause and Effect) model for the design of standard operating procedures was applied in a form of block diagrams, which can manage all business processes in companies in a way that will accurately determine the obligations and responsibilities of participants in the planning, execution, control and correction (PDCA) (Mitreva et.al, 2008:163).

For the design of the standard operating procedures, appropriate methodology, methods and techniques of statistical process control and non-defect production methodology for optimizing costs have been applied.

The results obtained in this study lead to the conclusion that the application of the methodology for SPC and methodology for optimizing costs can achieve defined quality and better productivity at the lowest cost in operation. The application of the methodology for cost clearly shows the results of the improvements, but is not the only indicator of them (Mitreva & Prodanovska, 2011:352). Increased product quality, increased employee motivation, better work environment and foremost customer satisfaction, are results that appear to be not measurable, but very important for the survival of their companies and its sustainable development. These methods yielded the same effects in different companies, which demonstrated the universality of the proposed methodology.

Conclusion

The success of the implementation of the TQM strategy depends on the commitment of all employees and their motivation, while the application and effects of the Six Sigma method engages professionals who receive salaries depending on the success of the Six Sigma program.

The success of the TQM strategy is based on simple methods and techniques, while the Six Sigma method requires rigorous application of statistical process control.

The TQM strategy does not directly measure the success of the company through the financial indicators, while Six Sigma does. The application of the TQM strategy requires the top management to include the human resources by forming teams of all profiles and integrating their knowledge to achieve complete mastery of quality in all processes of enterprises at a least costs of operation. This way malfunctions can be prevented by removing the possible causes of the problems. The usual resistance and fear of change is quickly outgrown and there is a strong desire to change the current situation. A new approach to quality is present, with full commitment towards customers, employees, environment and state.

Resources

Adler, L. (2006): Using Metrics to Create a Six Sigma Hiring Process, Business Credit, and November-December.

- Breyfogle, F. (2003): *Implementing Six Sigma: Smarter Solutions Using Statistical Methods*, 2d ed. John Wiley & Sons.
- Coronado, R. B. Antony, J. (2002): Critical success factors for the successful implementation of six sigma projects in Organizations, *The TQM Magazine*, Vol.: 14, No.: 2, pp.: 92-99.
- Chepujnoska, V. (2009): *Management of Quality, At Theory, Science and Practice of Technology - Metallurgical Engineering*, Skopje.
- Chepujnoska, V., & Mitreva, E. (2008): Methodology for optimization of the quality costs. *Economic Development*, 1(1), 45-56.
- EFQM, (1992): *Total Quality Management: The European Model for Self-Appraisal*, European Foundation for Quality Management.
- James, P. (1996): *Total Quality Management: An Introductory Text*, Prentice-Hall, Englewood Cliffs, NJ, pp.: 106-220.
- Mitreva, E., & Filiposki, O. (2012): "Proposal methodology of the subsystem-internal standardization as part of TQM system." *International Journal for Quality Research* Vol.: 6, No.: 3, pp.: 251-258.
- Mitreva, E., Chepujnoska, V. and Chepujnoski, Gj. (2008): "QC-CE-Pyramid model in the designing of the information system within a company." *Macedonian Journal of Chemistry and Chemical Engineering* Vol.:27, No.: 2, pp.: 163-168.
- Mitreva, E., & Prodanovska, V. (2011): "Competitiveness among Macedonian companies." Pp.: 352-358.
- Mitreva, E., & Filiposki, O. (2012b). Proposed methodology for implementing quality methods and techniques in Macedonian companies. *Journal of Engineering & Processing Management*, Vol.: 4, No.:1, 33-46.
- Mitreva, E., et al, (2013): The Need for Information System Design in Building a House of Quality, *International Journal of Pure & Applied Sciences & Technology*, Vol.: 16, No.: 1, pp.: 26-33.
- Reichheld, F. & Markey, R. (2006): *The Next Six Sigma*, Business Week, September.
- Zairi, M. (1999b): *Managing excellence: policy and strategy*, *The TQM Magazine*, Vol.: 11, No.: 2, pp.: 74-79.

Innovative Issues and Approaches in Social Sciences (IIASS)

Editorial correspondence

All correspondence or correspondence concerning any general questions, article submission or book reviews should be addressed to info@iiass.si.
7/58

Subscription to IIASS

IIASS is available free of any charge at <http://www.iiass.com> under: You can sign in for a free newsletter.

Advertising

Please find our advertising policy at <http://www.iiass.com> For additional questions or inquiries you can contact us on e-mail info@iiass.si.

Language

The objective of academic journal is to provide clear communication with an international audience. Style and elegance is secondary aim. In this manner we allow US and UK spelling as long as it is consistent within the article. Authors are responsible for language editing before submitting the article.

Notes for Contributors

Please refer to www.iiass.com for detailed instructions. Sample layout can be downloaded from http://www.iiass.com/uploaded_articles/IIASS_layout.doc

Scope:

IIASS is electronic peer reviewed international journal covering all social sciences (Political science, sociology, economy, public administration, law, management, communication science, etc.). Journal is open to theoretical and empirical articles of established scientist and researchers as well as of perspective young students. All articles have to pass blind peer review.

IIASS welcomes innovative ideas in researching established topics or articles that are trying to open new issues that are still searching for its scientific recognition.

Copyright

IIASS is exclusively electronic peer reviewed journal that is published three times a year (initially in January, May and September). IIASS is an open access Journal under Attribution-NonCommercial CC BY-NC licence (see <http://creativecommons.org/licenses/>). This license lets others remix, tweak, and build upon your work non-commercially, and although their new works must also acknowledge you and be non-commercial, they don't have to license their derivative works on the same terms.

By submitting your article you agree to the above mentioned copyright licence.

Additional information is available on: www.iiass.com



IIASS

SIDIP

ISSN 1855-0541



9

7 7 1 8 5 5 0 5 4 1 0 4