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# LITTERA SCRIPTA

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# **LITTERA SCRIPTA**

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# **Finding the Appropriate Balance between Hard and Soft Management Principles: Filling the Gap to Resolve some Unsolved Management Problems**

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University of Split

## **Abstract**

This paper presents management theory in terms of “hard” and “soft” principles, and puts forward proposals for future management theory development. The purpose is to open up a discussion about the theoretical divide between these two streams of thinking. Within this context, the principles underlying management theory are discussed in terms of the present and the future, namely in relation to:

- a) functional management: general management, HRM, leadership (with job engagement and management innovation); organisational structuresm,
- b) improvements in future management theory (management theory innovation) and their possible application in actual planning, organisation, HRM, leadership and controlling.

The methodologies used were literature review, reflection and conceptualisation. The main findings revealed that in future, integrated management theory (which integrates “hard and soft” management principles) should show how to effectively manage to achieve techno-economic rationalisation (“hard” management), how to effectively manage to achieve psycho-social rationalisation (“soft” management), and finally how to find a good balance between both “hard and soft” in order to develop an organisational strategy and achieve a desired level of organisational stability. On this basis, a number of solutions are put forward for actual management problems (organisational hierarchy, organisational innovation and organisational discipline). The contribution this paper makes to the field is the insights it provides into management theory problems, which will act as guidelines for: researchers conducting future empirical research (testing concepts and principles); management theorists by offering them a framework within which to generate deeper discussions and new heuristics; practitioners/managers by offering them “good” theory which can be implemented at the organisational level; decision makers at both the social and

societal levels by offering them the tools with which to humanise and de-alienate work through the application of the principles of “soft” management.

**Keywords:** Future of management, Integral management, Organisational structures, Organisation and management paradigm, Techno-economic rationalisation, Psycho-social rationalisation, Management innovation.

## **Introduction**

Management<sup>1</sup> is without a doubt one of the most important concepts devised by man. Improvements in organisational structures, processes and techniques have helped to drive economic progress, whereby organisational success has come to depend on effective management. It can therefore be said without exaggeration that management represents the real capital of organisations, economies and societies. However, the main problem for organisations remains the determination of the best form of management, i.e. how should an organisation be managed to maximise its success, particularly in light of the numerous changes it must adapt to.<sup>2</sup> For these purposes, numerous management approaches and theories have been developed, including numerous management innovations to enable organisations to react to changing circumstances accordingly.<sup>3</sup>

The effects of such management innovations on work practices can be divided into techno-economic rationalisation (so-called “hard” management) and psycho-social rationalisation (so-called “soft” management). In the theory, but also in organisational practice, “soft” management is being pushed to the fore, whereby the main purpose of management is to enable people to harmoniously occupy organisational settings and succeed in work, and to

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<sup>1</sup> Management involves the planning, execution and control of targeted activities of different entities at different aggregated levels (individual, (non-)profit organisations, state/society, civilisation) (Drucker 2007).

<sup>2</sup> Business organisations must adapt to the different impulses (e.g. globalisation, technological progress, cultural differences, social expectations, growing interest in entrepreneurship, increased privatisation, etc.) by utilising new business models (e.g. “just in time” production, target costing, mash), implementing organisational changes such as changes in work practices, human resources (e.g. multiple skills, continuous training, unstable employment, personally directed careers, team work, dealing with stress and alienation), working times, employee status, job definitions and values (increased responsibility for society as a whole, general wealth, equality, care for everyone and respect for all life forms).

<sup>3</sup> Over the past 50 years (1950-2000) a number of management trends and fads have appeared. These include: Decision Trees, Managerial Grids, Satisfiers/Dissatisfiers, Theory X and Theory Y, Brainstorming (creativity technique used by management), T-Group Training, Conglomeration, Management by Objectives, Diversification, Theory Z, Zero-Based Budgeting, Decentralization, Quality Circles, Performance Excellence, Restructuring, Portfolio Management, Management by Walking Around - MBWA, Matrix, Kanban, Interpreneurship, Corporate Culture, One Minute Managing, Downsizing, Self-Managed Teams, Total Quality Management-TQM, Six Sigma, Supply Chain Management, Enterprise Resource Planning, Customer Relationship Management, E-business, Knowledge Management, Learning Organisation, Outsourcing, etc. There are also new agendas for management innovation, for example, 25 Moon Shots for Management (Hamel 2009).

harness human power to become efficient, thereby making their weakness irrelevant (Drucker 1992; Templar 2011).

Management visionaries have come to understand that the model(s) for organising and managing companies that was valid for the 20th century, which were based on hierarchy and continuous growth in work and capital inputs, is not relevant to the needs of present day organisations. Nowadays, there is a greater need for talented staff to strengthen cooperation and create shared values (Lowell and Joyce 2007). Since the bearers of knowledge are people, specialists, the interest in the importance of human or intellectual capital as the driving force behind the economic growth and prosperity of organisations has therefore grown exponentially.

In the history of management, both Taylor's scientific approach and Weber's classic bureaucratic approach to management (so-called "hard" management) were effective in achieving good work organisations in the technical sense (i.e. governing with all organisational resources as material resources)<sup>4</sup> with some "soft" limitations.<sup>5</sup> Elton Mayo, with his famous Hawthorne experiment (1924-1933) in the Western Electric Company, evoked the human relations stream by proving the importance of human relations on the work front ("soft" organisational resources formed the beginning of "soft" management). However, even their conclusions were not without limitations and annotations. Nowadays, every relevant management theory and approach, give or take a few limitations and annotations, supports the conceptual view that an organisation is a psycho-socio-economic-technical system. In other words, within an organisation exist different "hard and soft" approaches, whereby managerial problems are directly related to the dominance of the one approach over the other.<sup>6</sup>

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<sup>4</sup> The main and basic difference between material ("hard") and non-material ("soft" or human) organisational resources lies in the fact that material resources do not behave, and non-material resources do. The hard (evident or "technical") organisational part is based on a deeper, but not evident, ("soft") organisational reality, which is often referred to as organisational culture.

<sup>5</sup> In spite of the evident efficacy of Taylor's scientific approach to management in terms of physical productivity, problems arose with long-term motivation, flexibility, innovation, initiative, group cohesion and effort because workers resisted such technically "perfect" arranged work. Weber's bureaucracy struggled with similar problems, such as: apathy, feelings of lack of responsibility, conventional behaviour (which contradicts the need for inventivity and creativity), lack of personal power, and the phenomenon of extreme obedience (which is demotivational with regards to more demanding or complex tasks).

<sup>6</sup> The essence and characteristics of "hard" organisational problems are different to "soft" ones, so they demand different approaches. For example, "hard" problems are characteristic for engineering and industrial systems, while "soft" ones relate to social systems and human individuals. Dealing with "hard" organisational problems requires: a clear purpose and goals, quantitative data, clear control mechanisms, a clear power structure and work distribution, and a unitarian vision of the organisation. The goal is to seek solutions to problems, whereby the analytics is separated from the organisational situation. Where "soft" organisational problems are concerned, the goals should be to evaluate, negotiate and improve. The organisation is seen as multidimensional, where the power is diffuse and

As a result, every effective approach to management should integrate both “hard” and “soft” elements, for example:

- a) Effective management applies to events, processes, situations and strategies, which an organisation should manage as a techno-economic system in order to achieve the given goals. This usually requires a “hard” approach to management (also with regards to human resources).
- b) Effective management also involves the personal development of employees, working teams, managers and management/management teams. Within this context, manager efficacy should be judged on, among other things, organisational abilities, concentration, uncompromising attitude towards efficiency and innovativeness because the job within an organisation carries responsibility in accordance with set quality standards and timeframes. A crucial management task is to also create a good working ethic and atmosphere (organisational climate and culture), without this management cannot function well. This usually requires a “soft” approach to management.

The fact that management is a discipline that encompasses both “hard” and “soft” elements can be seen from the functional split that exists in current management research (see Table 1 below).

The differences between the “hard” and “soft” management approaches is evident from the interpretation of the functional split in research presented above. In fact, the genesis and evolution of management theory has experienced numerous innovations. This is reflected in the move away from the hard approach, which views an organisation as a technical and economic system, towards the soft approach, which primarily views an organisation as a psycho-social system, through to the embrace of integrated management. This clearly shows that future models of management should include both techno-economic and psycho-social work rationalisation.<sup>7</sup> Today, the integration of hard and soft approaches in management theory manifests itself in areas such as general management, HR management,

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often unknown, where consensus and conflict co-exist, and where analytics is an accepted part of the organisational situation (Ackoff 1993; Farkas and Kurucz 2011).

<sup>7</sup> The complete rationalisation of work within an organisation consists of three components: a) technical rationalisation (typical in the area of production processes); b) economic rationalisation (the optimisation of inputs and outputs across every phase of the production process); c) social, or more precisely, psycho-social rationalisation (leading the people in an organisation). All three components can be considered equally important for work rationalisation within organisations (Kunze 1971), and which management should adjust accordingly (through the integration of “hard” and “soft” management principles). However, some authors also refer to the application of “soft” work rationalisation and its elements (individual, group and cultural) (Bogdanović, Cingula and Marijan 2016).

organisational structures and innovation across all managerial functions. This reflects the role of what is viewed as effective management, namely to combine elements of hard and soft management to achieve the goals of an organisation, which are often in some degree of paradox: stability (maximisation of productivity, minimisation of resource consumption) versus innovation (creativity produces instability). The future of management theory therefore lies in complex integrated management, whereby the goal is to achieve an acceptable level of technical, economic and psycho-social work rationalisation by means of hard and soft elements of management.

On the basis of the above explanation, and in order to achieve its purpose, the paper is divided into sections as follows:

- a) basic hard and soft principles of general management,
- b) principles underlying the hard and soft approaches to HRM with two sub-sections: b1) Principles of employee engagement and job motivation; b2) Principles of innovation management,
- c) principles underlying hard and soft organisational structures,
- d) improvements in future management theory in terms of hard and soft principles. This includes discussions on some key contemporary management problems (Buble 2011) such as: d1) Organisational hierarchy (how to coordinate employees without a costly, burdensome hierarchy); d2) Innovation (how to develop innovative products and services without high costs); d3) Coordination of organisational goals (how to harmonise organisational discipline which is a necessity for mass production, when freedom is required to create new products and services),
- e) conclusion.

Methodologically speaking, this paper presents an analysis of existing managerial principles and a theoretical discussion of these principle from the aspect of their “hard” and “soft” elements.

The main goal is to contribute to integrated management theory, which should seek to systematically integrate “hard” and “soft” management principles in organisational management. At present, in spite of the progress made, systematic integrated management theory cannot be said to really exist. The reality of the situation is, that there is “a jungle” of management theories and approaches that in essence combine “soft” and “hard” management principles. This “jungle” creates serious obstacles for rational scientific implementation and is probably a sign of the “lack of knowledge”<sup>8</sup> of and within the

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<sup>8</sup> Methodologically speaking “a jungle of theories” within a discipline or science does not represent a huge amount of knowledge. On the contrary, it is a sign of the underdevelopment of a discipline or science. Within this context, it

discipline. Therefore, by arranging the theories and giving some new insights into management theory from the “hard and soft” perspective will contribute to solving problems surrounding the systematic integration of numerous management principles.

## **Results**

### **Basic hard and soft principles of general management**

The source of the basic principles of “hard” management lie in Taylor's scientific approach to management, which are still actual and valid to this day. In contemporary organisations, these “hard” principles have been improved with the inclusion of numerous quantitative methods for solving complex operational problems, e.g. inventory management/inventory management theory (Polanecky and Lukoszova 2016), which are generally applied to production and business processes. In Table 2 bellow, the leading “hard” management principles are presented, including an explanation of the impact they have on, or the changes they bring to production systems.

Taylor's “hard” management principles were revolutionary and helped to maximise the efficiency of production companies at the beginning of the 20th century. The approach, with a doubt, had a great impact and retains practical value in contemporary management, and is used to this day as the basis for new models and theories that reflect changes in circumstances and demands.

Taylor's principles (the maximisation of efficiency by means of time and resource reduction in the production process) are still valid, especially in traditional work intensive industrial production. This implies that even in the future, the expectation is that they will remain compatible despite social changes in the work sphere.

In the history of management, the aforementioned principles have been supplemented with well-known mixtures of “soft” and “hard” management principles. These include the likes of Theory Z, Toyotism, lean production, internal marketing and so-called “new-Taylorism” (see Table 3 bellow), as well more futuristic approaches like “Moon Shots for Management”, which postulates 25 hard/soft principles (see Table 8 bellow). Within this context, it has increasingly been noted that “soft” management principles strongly support employee

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can be said that for disciplines and sciences where this applies, that they are far from their final goal (i.e. control of reality) and that this lack of knowledge is compensated with numerous, often contradictory or controversial theories. In other words, if we are in possession of “pure” knowledge, we do not need numerous or contradictory theories. In addition, when something (e.g. a problem) is understood to mean many different things, which is reflected in a myriad of possible solutions, it is quite possible that there is no meaning, the meaning is unclear, or the solutions imprecise.

engagement (Sejits and Crim 2006) and innovation (Hamori and Szabo 2011) (see Tables 5 and 6 bellow).

The key management principles of Theory Z, Toyotism, lean production and internal marketing are summarised in Table 3 bellow, including an indication of whether the dominant principle is “soft” (S), “hard” (H) or mixed (H/S).

On the basis of the above it is clear that the dominance of the principles encapsulated in current management innovations varies between “hard”, “soft” or a mixture of the two.

### **Principles underlying hard and soft approaches to human resource management (HRM)**

HRM can also be divided into a techno-economic part (“hard” HRM), related to personnel management focused on achieving efficiency gains, and an interpersonal part (“soft” HRM), related to people management and leadership (i.e. the everyday work of people within an organisation).

Hard HRM focuses in a rational way on the quantitative, calculative and business-strategic aspects of the “human resource”, just like any other factor of production (the utilitarian-instrumentalism way of thinking and behaviour). Under hard HRM, importance is attached to “strategic fit”, whereby human resource policies and practices are closely linked to the strategic objectives of an organisation (external fit), which are coherent among themselves (internal fit), and which share the ultimate aim of increasing competitive advantage.

Soft HRM involves changes in human relations, the utilisation of individual talents and McGregor’s Theory Y perspective on individuals (developmental-humanistic way of thinking and behaviour). This has been equated with the concept of “high commitment” work systems, which aim to elicit a commitment from an employee so that their behaviour is primarily self-regulated rather than controlled by sanctions and external pressures on the individual, whereby relations within the organisation are based on a high level of trust. Soft HRM is also associated with the goals of flexibility and adaptability (which in themselves are problematic concepts) and implies that communication plays a central role in management (Truss et al. 1997).

Advocates of the hard (techno-economic) approach to HRM treat employees as a business resource and therefore focus on the planning and regulation of the number and the structure of the workforce, its functional adaptation and development. Within this context, performance management and compensation are the drivers of motivation and changes in behaviour, the main mechanism being that of punishment and reward. This is supported by the technical function and organisation of the personnel department in the form of the Human Resources Information System (HRIS). In a “hard” HRM environment the short term

is viewed as being up to 1 year, and the medium-term as 1-5 years, communication is almost always formal (from the top down), empowerment is low, the delegation of managerial jobs to professionals is small, with organisations characterised by high organisational structures with numerous hierarchical levels.

Advocates of the soft approach to HRM view employees as a means by which to achieve a unique, sustainable competitive advantage. The HRM function therefore has a strategic and long term focus. This approach involves the intrinsic motivation of employees, multiple communication channels, empowerment techniques, flatter organisational structures and the maximisation of human resource development to achieve economic benefits. Of particular importance is career development, so that every employee is clear about what they should be doing, what they should know, what and how they should do things (how to invest in themselves) in order to be beneficial and useful to the organisation and themselves alike.

Effective HRM always requires an adequate combination of "hard" (technic-economic) and "soft" (psycho-social) approaches Bahtijarević-Šiber 1999; Buble 2006; Noe et al. 2006). The "hard" and "soft" functions within HRM are presented in Table 4.

When taking the above into consideration, it is clear that company managements must understand that the human resource needs to be managed in two ways:

- a) As a basic business resource supported by the personnel department and that is treated economically "hard" so that it generates profit, just like any other (material) resources. This is called HRM or staffing.
- b) As a "soft" resource that should be treated psycho-socially in a humanistic way and at the interpersonal level, with respect for their personal characteristics and behaviour. This is called people management, governance or leadership.

It is assumed that HRM in the broader sense should in fact be a composite of these two components, which is crucial to management functions and should be applied in practice accordingly. It is important at this point to note that the application of only "hard" or only "soft" HRM practices would not deliver on an organisation's full potential. This implies that management innovation should therefore include both "hard" and "soft" components.

Although the theory of the identified areas of HRM are known, the need remains for new creative thinking and ideas in the field of "soft" management, which in most cases is more difficult to implement and optimise than techno-economic solutions. An explanation of the following key soft management principles follows:

- a) employee engagement and job motivation,
- b) innovation management (which is a great problem in numerous organisations).

### **Principles underlying employee engagement and job motivation**

Engaged employees are employees who perform at the top of their abilities, work with passion, are strongly connected with the organisation for which they work, and are happy about this (Bauer and Erdogan 2012). Such employees are emotionally and intellectually dedicated to the achievement of their work, and the organisation's mission and vision. The most successful companies understand that growth and development are only the result of the extraordinary motivation and innovative capabilities of their employees, which demands effective soft management. The basis for such soft management principles (soft phenomena) are in effect all psychological (Ho, Wong and Lee 2011). Complementary to this, some authors have also proposed additional new approaches to the motivation and engagement of employees by "soft" means (Bogdanović 2016; Seijts and Crim 2006).

Seijts and Crim (2006) identify ten soft principles by which to achieve employee engagement and job motivation. These are presented in Table 5 below.

Bogdanović (2016) proposed several soft management principles for improving job engagement and work motivation, the most important of which is that management should make such an impression that employees believe that they are working for their own good.

### **Principles underlying innovation management**

Innovation activities, i.e. the creative implementation of knowledge, are key to entrepreneurship, new product development and management, i.e. the growth and development of existing and new companies. Human innovation encompasses activities which primarily demand "soft" managerial approaches because it involves specialised human resources that are highly dependent on environmental conditions. The application of a "hard" approach and the concentration on economic efficiency and profitability would be counter-productive and block the innovation processes in most employees. The exception to this rule was the GULAG camp system during the "hard" Soviet era, during which scientists were expected to invent almost by enforcement<sup>9</sup>. However, this approach did not prove to be very fruitful because innovation in essence is a free activity. Table 6 provides an overview of the "hard" and "soft" organisational principles that impede or stimulate an environment of innovation in companies.

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<sup>9</sup> For example, the creator of the Soviet rocket programme, Sergej Pavlovič Koroljev (1907-1966), was prevented from walking around freely. He was permanently under observation, even during his 10 years in the GULAG camp (during Stalin era 1924-1953). Until his death in 1966, he was forbidden to be addressed by his name, he was only ever addressed as "main constructor" (Simonić, 2001). As a result of this "hard" treatment, it was felt that in the scientific and technological sense he did not fulfil his true potential.

On the basis of the above, it is clear that a “soft” organisational approach is crucial for innovation, whereas a “hard” approach provides organisational stability. That said, within the field of HRM, it is essential to find a balance between the two to achieve optimal efficiency within an organisation.

### **Principles underlying hard and soft organisational structures**

“Hard” organisational structures are considered in terms of being mechanical, traditional and hierarchical, whereas “soft” ones are synonymous with terms such as organic structures and network structures, i.e. self-organising models. The main characteristic of hierarchical structures is that they can be more or less centralised, whereas organic structures are more distributed and cannot. This implies that there are some significant differences between “hard” and “soft” organisational structures. According to Drotos (2011), these differences lie in the following dimensions:

- a) cornerstones and core values,
- b) market offers and organisational performance,
- c) forms of organisational collaboration,
- d) organisational patterns,
- e) leaderships issues,
- f) the use of information technologies.

The differences between “hard” (hierarchical) and “soft” (network or self-organised) structures according to the aforementioned criterion are presented in Table 7 bellow.

Innovations in the area of “soft” organisational structures suggests that typical hierarchical organisations, i.e. vertical (“silo”) corporations which characterised the industrial era, need to be deconstructed. In the current enterprise culture, there is an increased need for interdependence, empowerment, independent units and networked teams. This in turn means that rigid economic units need to transform themselves accordingly. Informatisation of the economy and the transformation towards a knowledge economy<sup>10</sup> support this trend. As a result, every organisational innovation must be interpreted within this context. The challenge for management today, and in the future, is to revitalise the key competences which empower network based, self-organised organisational structures.

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<sup>10</sup> The term “knowledge economy” is often misused in politicians’ speeches. It is therefore important to draw attention to its implications, which are, that today (and in the future), only knowledge creates products and services which consumers are willing to buy.

On the basis of the above, it would seem that compromise is possible between “hard” and “soft” organisational structures, and that a good strategy is to search for and develop structural synergies. The challenge therefore for organisations and managements is to find an effective way of restructuring that utilises the elements/characteristics of both organisational structures (hierarchical and self-organised) in order to maintain the benefits of both, too.

### **Hard and soft principles that underlie improvements in future management theory (management theory innovations)**

The principles on which innovations in management theory and practice in the 21st century, in particular with regards to the implementation of solutions and the verification thereof in practice, are also based on a mixture of “soft” and “hard” approaches. It is on this basis that the prominent principles at the heart of management theory innovation are presented Table 8.<sup>11</sup>

As is evident from the list above, 5 out of 25 (i.e. 20%) of the principles that underlie future management theory innovations can, in the opinion of the author, be classified as “hard”, and the remainder, 20 out of 25 (i.e. 80%), can be classified as “soft” (Hamel 2007; Hamel and Breen 2009). It can be stated that the future of management theory innovation lies in the integration of “hard” and “soft” management principles, which can be systematically applied to the main managerial functions (planning, organising, HRM/staffing, leading and controlling).

With regards to the main management functions<sup>12</sup>, the following management innovations can be mentioned:

- a) PLANNING: Within this management function there is still no good theory for strategy creation. The key question is therefore how to improve the possibility of creating good strategies (Hamel 2012). To be able to control the unpredictable and uncertain future will most likely require a combination of quantitative (hard i.e. models) approaches and

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<sup>11</sup> The authors Chris Argyris, Peter Senge, Gary Hamel and Kevin Kelly created an ambitious agenda for management innovations. [online] [accessed: 2018-06-06]. Available at: <http://www.greatleadershipbydan.com/2009/04/moon-shots-for-management-management-20.html>

<sup>12</sup> The functional management approach, i.e. the traditional view of a manager’s job, still prevails. This approach treats management as a stream of interconnected blocks of tasks. In other words, there are 4 or 5 main management functions: planning, organising, directing, controlling (Olson 2004); or: planning, organising, HRM, leadership/leading, controlling (Buble 2006; Bahtijarević-Šiber 1999); and several supplementary/integrating/mediation functions (e.g. decision making, coordination, influencing, communication, delegating) and duties (e.g. change management, conflict management, development management) (Bahtijarević-Šiber 1999).

intuitive (soft i.e. improvisation) approaches. The key to “soft” management approaches is knowledge of psychology. The development of the planning function will therefore depend on the development of such knowledge. It is also unclear what the process of creating an inspiring vision entails within the management planning function, which is a precondition for a functional strategy. Therefore in planning/strategy planning it is clear that there is a need for the integration of “soft” and “hard” management methods/principles because planning is more than just a technical question.

- b) ORGANIZING: The creation and development of the Internet and social networks is the result of network/self-organising organisational structures. Social capital and networking will remain very important for conducting effective business (Baker 2003), which implies that it is important for self-organising organisations to increase their social investment (collaboration principles in social structures) because it is crucial for their efficacy. Within this context, it is necessary for strong hierarchical structures that rely on compliance (obedience) to be transformed because they do not generate true work commitment/job engagement, which is the real source of organisational learning and innovation (Senge 2008). In addition, people suffer under a strict organisational hierarchy (Buble 2011), which is counterproductive for innovation and slows down decision-making. There is also a growing need for new kinds of “soft” capital at different levels within organisations, Firstly, at the individual level in the form of morals (love-altruism-solidarity), health, aesthetics, erotic capital<sup>13</sup> and similarly, for example, psychological capital<sup>14</sup>. Secondly, at the collective level in the form of capital related to organisational harmony, climate and culture (Bogdanović 2008; TV broadcast “Knowledge capital”, Business TV, Republic of Croatia; “Knowledge capital” on <http://www.kapital.tv> 2011). At both levels, these forms of soft capital have important repercussions for organising and organisational structures. As a result, this management function will require existing “hard” organisational principles to be upgraded to reflect this.
- c) HRM/STAFFING: Under HRM/staffing more attention needs to be focused on the efficiency (innovative, profitable) and efficacy of each employee and working team with respect to the strategic goals of a company. Traditional obedience can only still be a

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<sup>13</sup> According to the book of Hakim (2011), *erotic capital* is defined as a set of individual characteristics such as social attraction, charm, vitality and sexiness, which includes elements of dress, gaze, smile, relationship culture and physical appearance.

<sup>14</sup> *Psychological capital* is a new concept within resources-oriented theory, whereby human resource capital is considered to provide a sustainable strategic competitive advantage on the basis of psychological capital in the form of, among other things, the ability to self-evaluate efficacy, optimism, hope, hardiness to stress/failure, and which is positively connected with entrepreneurship and innovation (Newman et al. 2014.).

relevant strategic goal and dominant managerial principle in companies that operate in traditional industries or that mass produce goods, although this is even questionable. If the strategic goals are to innovate and develop new products, humanistic management approaches need to be implemented i.e. unconditional respect for the dignity of every employee (Von Kimakowitz 2013). By doing so, employees will be more aware of and pay more attention to their contribution in terms of productivity, innovation and multidisciplinary competence in order to remain employed, whilst respecting human dignity to the full.<sup>15</sup> Within this context, HRM should be in charge of every aspect of improving the profitability/creativity of employees (with "hard" and "soft" managerial principles) with the utmost respect for ethics and humanity. By adopting such a humanistic approach, management could try to resolve the alienation problem (where employees in their work neither find satisfaction nor confirmation of their abilities, where their personality is squeezed, and their spiritual life is at its lowest level) by empowering people in their jobs. Empowering employees in their jobs increases their self-consciousness and satisfies their needs for self-actualisation, which is standard knowledge within management i.e. in HRM and the organisational behaviour discipline. However, Marx took a much broader view on the theory behind the alienation problem. He suggests that humans alienate themselves religiously, spiritually (in the form of morals, philosophy, art), economically (in form of commodities, money, capital) and socially (in the form of state, law and institutions), and that the humanistic approach is the way to self-consciousness, self-actualisation and the most developed form of creativity (authentic form of freedom). The philosopher, Gajo Petrović, in discussing Marx's alienation theory, provides an interesting insight into the resolution of the alienation problem. He states "de-alienation is a revolution during which people change their social relationships (eliminate the class system) and change their nature at the same time. Such a revolution (de-alienation) is the essence of existence and existence in its essence." (Kukoč 2013, p.22-23 according Petrović 1973, p.11-15). In the ethical sense, de-alienation in business requires the implementation of humanistic/intrinsic (true) values which are means and ends in themselves (Von Kimakowitz 2013) and result in: correct behaviour, truth, love, equanimity/peace, and non-violence. This contrasts sharply with extrinsic/instrumental/egoistic values, which are selfish values

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<sup>15</sup> Humanistic management is based on the fundamental acceptance that the "conditio humana" encompasses our shared mental and physical vulnerability and, consequently, the need for protection of our human dignity. All humans must always be seen as ends in themselves, and never as mere means to an end: "Everything has either a price or a dignity. Whatever has a price can be replaced by something else as its equivalent; on the other hand, whatever is above all price, and therefore admits to having no equivalent, has dignity. But that which constitutes the condition under which something alone can be an end in itself does not have mere relative worth, i.e. price, but an intrinsic worth, i.e. dignity (Kant 1785 according Von Kimakowitz 2013).

and regardless of the means always result in alienation.<sup>16</sup> To truly achieve humanistic de-alienation it is therefore necessary to resolve, in practical terms, the main ethical paradox between humanistic/intrinsic/true/non-egoistic and extrinsic/instrumental/egoistic values (as pointed out in the famous metaphor of Lord Jahve and Lord Mamon, i.e. "the story of the golden calf", in which it is impossible to serve both Lords, i.e. to adhere to different value systems at the same time<sup>17</sup>) (Bogdanović 2017). Unfortunately, this cannot be expected in the near future.

- d) LEADING: With regards to the management of the people which produce products and services with high added value, the expectation is that there will be a move towards the development of participative democracies and serving leadership e.g. "Management by love" (Gerken 1991; Brajša 1997; Ferch 2008). Genuine organisational conflicts can be moderated by cultural changes in the style of leadership across all segments of organisational life, especially in those areas related to power. By only being able to resolve the conflicts in organisations, it is possible to improve human relationships and the psycho-social working conditions (Burnes 2004). However, in organisations where the products and services generate low added value, the expectation is that the traditional autocratic and absolutistic leadership models will remain intact, which will only be relaxed because of appeal and legitimacy of capital relationship. Within this context, and on the basis of clear class differentiations (e.g. employable and non-employable work force; rich and poor; privileged and under-privileged; etc.), it is to be expected that forms of leadership will develop which will apply different proportions of "hard" and "soft" management principles, whereby the driving force is the benefits this generates for humanity (defined political freedom and democracy in terms of its contents: economic, political and social).
- e) CONTROLLING: Technology and technological progress will contribute to the "hard" control of people. Potential utopian-futuristic scenarios of control have already been envisioned (via cameras, the control of electronic and other communications, total control on the workplace and other places). In addition, if the principle of self-organising teams is adopted, then it would be possible to master self-control and responsibility. This would enable distributed work (e.g. work at home and outside a

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<sup>16</sup> Values of *scientific management* such as: a) survival, b) success, c) happiness and d) health (Lukšić 1995), or similar values in renewed *Darwin neoclassic value theory* such as: : a) achieving resources for the live sustain, b) defending from the factors which threaten the life, c) connecting with other people in longterm carefull two-way relationships, d) understanding the world around us (Lawrence and Nohria 2002) are extrinsic/instrumental/egoistic ones.

<sup>17</sup> Lord Mamon is a metaphor of practical need and mercenary, i.e. money. Money (lord Mamon) destroys all the other lords, and rules the soules of alienated human beeings.

company), that in the past relied on a sense of duty, to be subjected to "hard" control in the form of performance ethics and performance management. It goes without saying that it is also possible that relatively cheap automated, electronic and robotic "hard" control will be widely used unless this is not strongly regulated. As is the case for the other management functions, a balance will also need to be struck between the "hard" and "soft" management principles for controlling. In finding that balance, consideration should be given to the humanisation of different types of controlling because the technological possibilities can easily result in the border between ethics and human dignity being crossed.

Management and its future development is also connected to broader socio-economic developments, both internally and externally. Therefore the way forward for (integrated) management is to:

- a) Follow the developments in the external and internal environments (in this sense there is no paradigmatic change expected).
- b) Apply "hard" management to those resources that do not behave in order to achieve techno-economic work rationalisation.
- c) Apply "soft" management to people (at the individual, group and organisational levels) and organisational culture (socio-economic phenomena in organisations) to achieve psycho-social work rationalisation (Bogdanović, Cingula and Marijan 2015).
- d) Apply "mixed" management methods to human resources subject to the desired level of stability, change (development, innovation) and strategy to achieve total rationalisation of the work in an organisation.

## **Conclusion**

With regards to the key management problems in the contemporary world of work, and the question of how to solve unsolved managerial problems, the following conclusions can be drawn:

- a) Hierarchical structures are appropriate for work intensive organisations with low levels of required knowledge and innovation. In contrast, network and self-organising structures are appropriate for organisations for whom knowledge and innovation are crucial.
- b) Innovation cannot be stimulated effectively without a "soft" management approach, and that lower costs can only be achieved through an organisational culture that values the innovative capacities of its employees.

- c) Organisational discipline will be less based on legitimate and instrumental power, but more on professionalism and referent power.

The way forward for determining the appropriate balance between hard and soft management and for the development of integrated management theory for the 21st century lies in:

- a) Following the developments in the external and internal environments (in this sense there is no paradigmatic change expected).
- b) Continuing to manage techno-economic problems and tasks on the basis of "hard" scientific management principles.
- c) Continuing to manage psycho-social problems and tasks on the basis of "soft" management principles.
- d) Management on the basis of "mixed" principles subject to the desired organisational stability and change. More "hard" methods should be applied if greater organisational stability is wanted, and more "soft" methods applied if employee motivation, job engagement and innovation are required.

It can also be concluded that it is important for efficient organisations to apply "hard" principles (Taylor's and Weber's), "soft" principles (e.g. from the Hawthorne experiment, Theory Y and contemporary knowledge with regards to organisational psycho-sociology) and "mixed" management principles, which can already be found in some contemporary industrial settings (e.g. Theory Z, Toyotism, lean production, internal marketing, as well as the 25 principles recommended in this paper for future management theory innovation). Within this context, management of the future will certainly see an integration of these elements in the form of sophisticated, innovative solutions for the:

- a) Structural-process (hard) component with defined processes, procedures and standards. This component defines an organisation, how it should function and which standards it should satisfy.
- b) Cultural (soft) component which is related to the psycho-social field of, among other things, corporate values, opinions, expectations and aspirations. This cultural component is crucial for the quality of an organisation and its impact on people, employees and stakeholders alike.

With regards to future trends in the development of management for the 21st century, it is more and more clear that a balance should be sought between "hard" and "soft" management approaches. Modern new elements, that are making new connections and hierarchies in management possible, and that are discovered and applied in everyday managerial work, have laid the foundations for this. Its essence rests above all in those

areas where the focus of attention is on the human being and human behaviour and in the organisational settings for human resource management and organisational behaviour.

The dramatic changes in the global economic environment are transforming attitudes and understanding, but also generating practical controlled work. Theorists talk about a so-called “shift in the management paradigm”, a shift in basic patterns and values in management, to which we have been witness in recent decades. It is for this reason that it is not currently possible to clearly and exactly define generally accepted norms, principles and rules in the area of management. There are many opinions and trends that try to describe and define the changes in the theory, as well as in management practice. Their existence, but more importantly, their validity, must be proven in the future and through rigorous research.

## Tables

Table 1: Functional split in current management research

<b>1. Organisational Management Research</b>	<b>2. Human Resource Management (HRM) Research</b>	<b>3. Process Management Research</b>
1.1. Organisational forms and management tasks (H)	2.1. Motivation (S)	3.1. Planning as a managerial activity (H/S)
1.2. Organisational development (S)	2.2. Conflict management (S)	3.2. Decision (H/S)
1.3. Organisational communication (S)	2.3. Human resource management (HRM) (H/S)	3.3. Decision-implementation, provision (S)
1.4. Information management (H/S)	2.4. Selection of labour (H)	3.4. Organisation (H/S)
1.5. Organisational management (H/S)	2.5. Competency tests (H)	3.5. Logistics management (H)
1.6. Group management (S)	2.6. Benchmarking (H)	3.6. Monitoring (H)
1.7. Analysis of management structure and hierarchy (H)	2.7. Development of human resource (H/S)	3.7. Quality management (H/S)
1.8. Change management (S)	2.8. Career management (H/S)	3.8. Time management (H)
1.9. Innovation management (S)	2.9. (4EM) Equal opportunities human resource management (H/S)	3.9. Security management (H/S)

Source: Berde (2011); Author's interpretation of the managerial principles: H - hard approach dominant; S - soft approach dominant; H/S - mixed hard/soft approach

Table 2: Taylor's "hard" management principles and their impact on production systems

<b>"Hard" principles of scientific management</b>	<b>Impact on production systems</b>
Delimitation between planning / management functions and task execution (the workers should work only on concrete operations, without redundant planning on which they spend productive time)	Increases the skills of workers by raising levels of expertise and technical knowledge
Rational organisation of work in sequences and processes (defining the best working methods in terms of movements and tools to be used)	Allows greater control of time in factories (minimises non-productive time), which results in a greater accumulation of capital;
Elimination of unnecessary/redundant movements (elimination of badly designed, slow and unnecessary movements)	Introduces the idea of technical individualism and role mechanisation (optimisation of technological processes due to the variability of the human factor)
Introduction of task timing (every movement or operation should be timed according the fastest movement)	Stimulates the scientific study of movements and productive time (for each operation)
Worker motivation stimulated through premiums and the absence of improvisation (a differential system of awards is typical; improvisation is seen as being loose from productive work time because it differs from the best way a job should be done)	

Source: Taylor (1919) according to Vasquez (2011)

Table 3: Managerial principles of Theory Z, Toyotism, Lean Manufacturing and Internal Marketing and its classification

Key Management Principles	Source
Encouraging interaction of personal skills (encourage self-organised learning that is important, or could be important for the job). (S)	Theory Z
Decision-making processes based on consensus (decisions about important operative matters should include the workers because they know what can be improved). (S)	Theory Z
Assignment and elucidation of individual responsibility (principles of empowerment and horizontal career development). (S)	Theory Z
Promotion of informal relationships based on mutual trust (within/outside workplace) (organisational trust becomes the key factor for motivating employees). (S)	Theory Z
Participative management systems (whereby hierarchical structures and principles of authority and discipline are maintained). (H/S)	Theory Z
Job flexibility and high rotation in roles and tasks (this develops the thinking that organisational development depends on continuous organisational change). (H/S)	Toyotism
Promotion of team work and integration among individuals at different hierarchical levels (process and net organisation structures are needed in those industries where information and knowledge is the basic input). (H/S)	Toyotism
Just-in-time relationships between production time and product flow (production should be continuous and without pause, which requires a special culture and relationships with suppliers). (H/S)	Toyotism
Reduction of plant costs, which translates into lower prices and increased consumption. (H)	Toyotism
“Five zeros” strategy: zero defects, zero breakdowns, zero delays, zero paper, and zero inventory. (H/S)	Toyotism
Perfect quality at the first attempt (zero defects). (H/S)	Lean Manufacturing
Waste minimisation (removal of what does not generate added value). (H)	Lean Manufacturing
Continuous improvement (costs, quality, productivity, information sharing). (H/S)	Lean Manufacturing
Pull processes (on customer demand). (H/S)	Lean Manufacturing
Flexibility (quick production of a range of products to prevent lapses in	Lean

efficiency). (H/S)	Manufacturing
Long-term relationships with suppliers, risk sharing, costs and information. (H/S)	Lean Manufacturing
Employees as an internal target market to motivate and satisfy. (S)	Internal marketing
Remuneration is more than merely the job and salary/wage. (H/S)	Internal marketing
Internal communication is essential. (S)	Internal marketing
Optimisation of employees' creative potential (organisational innovation is inherent in employee behaviour). (S)	Internal marketing
Participative management systems. (H/S)	Internal marketing
Other issues (job training, safety, stability, etc.). (H/S)	Internal marketing

Source: (Vazquez 2011)

Author's interpretation of the managerial principles: H - hard approach dominant; S - soft approach dominant; H/S - mixed hard/soft approach

Table 4: Hard and soft functions within HRM

Hard HRM Functions	Soft HRM Functions
1. Job/work analysis	1. Leading and directing
2. Projecting the working places	2. Motivation
3. Planning of personnel needs	3. Communication and informing
4. Recruitment, professional selection and allocation of work places	4. Management with human, interpersonal processes and groups (group dynamics)
5. Training and education of employees	5. Conflict and power management
6. Performance management	6. Change management, organisational development
7. Compensation	7. Innovation management
8. Working relationships	8. Organisational culture and climate
9. Work safety, social rights, judicial safety, standard safety	9. Professional and career development of employees, managerial succession
10. Organisation of Personnel Department and HRIS	10. Organisational behaviour, organisational consulting, behavioural economy

Source: Author

Table 5. "Soft" principles for employee engagement

<b>Number</b>	<b>Managerial principle (The 10 C's)</b>	<b>Explanation of the principle</b>
1.	Connect	Show the employee that the manager appreciates them as a person and their work. This includes profit-sharing and work-life incentives.
2.	Career	Provide the employee with work challenges and the possibility of career advancement. Not giving the employee the knowledge and tools to be successful is demotivating and unethical. Management should internalise the culture "Our employees are our most valuable asset."
3.	Clarity	Clearly present the company's vision and goals. Management should communicate clarity about what the organisation stands for, what it wants to achieve and how people can contribute to the organisation's success.
4.	Convey	Introduce employees to work processes and procedures. Good leaders establish processes and procedures that help employees master important tasks and achieve goals, but also to improve their skills and create small wins that help the team, unit or organisation to perform at its best.
5.	Congratulate	Praise for strong performance. The employee's work must be visible, commended and rewarded by their supervisor. Exceptional leaders give a lot of recognition.
6.	Contribute	Employees want to know that investing their efforts and time in work contributes to the overall goals of the company in a meaningful way. Good leaders help employees to see and feel how they are contributing to the organisation's success and future.
7.	Control	Employees should be given the opportunity to participate in the process of adopting important decisions. This often reduces stress, creates trust and a culture where employees want to take ownership of problems and their solutions.
8.	Collaborate	Build teams that create an environment of confidence. Great leaders are team-builders. They create an environment that fosters trust and collaboration. Being cared about by colleagues is also a strong predictor of employee engagement.
9.	Credibility	Leaders should strive to maintain a company's reputation and represent high ethical standards.
10.	Confidence	A good leader gains the confidence of employees by living the values, norms and ethical standards of the company. They help create confidence in the company by being an example of high ethical and performance standards. The restoration of corporate ethics and credibility are key ingredients for success.

Source: Seijts and Crim (2006)

Table 6. Organisational principles that impede or stimulate innovation in companies

<b>Principles that impede innovation (HARD)</b>	<b>Principles that stimulate innovation (SOFT)</b>
Adherence to the norm, inflexibility	Inclination to change, flexibility
Bureaucratic behavioural forms, vulnerability	Autonomous initiative, autonomous action, free decisions
Low propensity for taking risks	High propensity for taking risks
Searching for corrupt by-passes	Correct behaviour
Seclusion, low level of tolerance	Openness, high level of tolerance
Contracts, failure to follow rules	Rule following behaviour

Source: Compilation of Hamori and Szabo (2011)

Table 7: Difference between “hard” and “soft” organisational structures according to the key dimensions

	<b>Hard (hierarchical) structure</b>	<b>Soft (self-organizing) structure</b>
Cornerstones and Core Values	Profit maximisation	Low or zero profit
	Emphasis on property rights	Fluid property rights
	Contract-based	Reciprocal and trust-based
Market Offers and Performance	Standard products and services are preferred	Mass customisation of products and services
	Inquiries and orders are handled according to formal (often slow) processes	Customer needs are informally communicated and quickly fulfilled
	High transaction costs	Low transaction costs
	Good quality because of multiple formal control mechanisms	Quantity problems may occur despite of distributed control efforts
Forms of Collaboration	Controlled value and supply chains	Loose network of collaborations with many parties
	The name of the game is how to exploit your bargaining power to the maximum	The name of the game is how to self-balance contributions and benefits from contributions
	The customer is a consumer with needs and money	The customer is a “prosumer” providing feedback and contributions
	Some tasks are outsourced to selected professional partners	Some tasks are crowdsourced to non-professionals or communities
Organisational Patterns	Top-down, designed (centralised or decentralised structure)	Bottom-up, emergent (modular structure)
	Participants are subordinates	Participants are all equal
	Lean is beautiful, redundancy is avoided	Organic development, redundancy is encouraged
	Transparent structure with some central elements and few lines - therefore vulnerable	Not so transparent, multiple hubs and web of connections survives and revives even from crashes
	Controlled, two way communication	Distributed, parallel communication
	Difficult to scale up or down: limited or non-proportional	Smooth growth or reduction: without limits and extra

	costs occur	costs
Leaderships Issues	Strong leadership required at establishment and for operations	Strong leadership capacity only required at establishment
	Multi-level career paths, gradual and slow advancement, high power distance	“Leaders” are naturally developed, super-nodes (hubs), small power distance
	Autocratic or democratic leadership style	Mentoring: encouragement, coaching, assistance
	Disciplined implementation after the decision is made	Incremental development: experimentation and bricolage
	Partial mistrust, secrecy	Openness, hospitality
Use of Information Technologies	Centralised servers, branded desktops, licensed applications	Cloud computing, mobile clients, open-source applications
	Integrated administrative systems (with ERP system), formal use of MIS systems	Necessary or simple administrative systems with use of more informal MIS systems
	Internet used in a hierarchical way (B2B, B2C applications)	Internet used in an organic way (web2, social media)
	Fixed user roles with predefined permissions	Accidentally changing user roles and permissions

Source: Drotos (2011)

Table 8. Soft and hard principles that underlie future management theory innovations

<b>Dominant approach - soft (S) / hard (H)</b>	<b>Principle</b>	<b>Explanation of the principle</b>
1. S	Ensure that the work of management serves a higher purpose.	Management, both in theory and practice, must orient itself to the achievement of noble, socially significant goals.
2. S	Fully embed the ideas of community and citizenship in management systems.	There is a need for process and practices that reflect the interdependence of all stakeholder groups.
3. S	Reconstruct management's philosophical foundations.	To build organisations that are more than merely efficient, drawing lessons from such fields as biology, markets, democracies and theology to do so.
4. S	Eliminate the pathologies of formal hierarchies.	There are advantages to natural hierarchies, where power flows up from the bottom and leaders emerge instead of being appointed.
5. S	Reduce fear and increase trust.	Mistrust and fear are toxic to innovation and engagement and must be wrung out of tomorrow's management systems.
6. S	Reinvent the means of control.	To transcend the discipline-versus-freedom trade-off, control systems will have to encourage control from within, rather than constraints from without.
7. S	Redefine the work of leadership.	The notion of "the" leader as a heroic decision maker is untenable. Leaders must be recast as architects of social systems who work to enable innovation and collaboration.
8. S	Expand and exploit diversity.	The creation of a management system that values diversity, disagreement and divergence as much as conformance, consensus and cohesion.
9. H	Reinvent strategy, making it an emergent process.	In a turbulent world, strategy making must reflect the biological principles of variation, selection and retention.
10. H	Deconstruct and disaggregate the organisation.	To become more adaptable and innovative, large organisations must be disaggregated into smaller, more malleable units.
11. S	Dramatically reduce the pull of the past.	Existing management systems often mindlessly reinforce the status quo. In the future, they must facilitate innovation and change.
12. S	Share the work of setting direction.	To engender commitment, the responsibility or goal setting must be distributed in a process where share of voice is a function of insight, not power.
13. H	Develop holistic performance measures.	Existing performance metrics must be recast because they give inadequate attention to the critical human capabilities that drive success in the creative

		economy.
14. H	Stretch executives' timeframes and perspectives.	Discover alternatives to compensation and reward systems that encourage managers to sacrifice long-term goals for short-term gains.
15. S	Create a democracy of information.	Companies need holistic information systems that equip every employee to act in the interests of the entire organisation.
16. S	Empower renegades and disarm reactionaries.	Management systems must give more power to employees who have their emotional equity invested in the future rather than in the past.
17. S	Expand the scope of employee autonomy.	Management systems must be redesigned to facilitate grassroots initiatives and local experimentation.
18. S	Create internal markets for ideas, talent and resources.	Markets are better than hierarchies at allocating resources, whereby companies' resource allocation processes need to reflect this fact.
19. S	Depoliticise decision making.	The decision-making process must be free of positional biases and exploit the collective wisdom of the entire organisation.
20. H	Better optimise trade-offs.	Management systems tend to force either-or choices. What is needed are hybrid systems that subtly optimise key trade-offs.
21. S	Further unleash the human imagination.	Much is known about what engenders human creativity. This knowledge must be better applied in the design of management systems.
22. S	Enable communities of passion.	To maximise employee engagement, management systems must facilitate the formation of communities of passion.
23. H	Retool management for an open world.	Value-creating networks often transcend the organisation's boundaries and can render traditional power-based management tools ineffective. New management tools are needed to build complex ecosystems.
24. S	Humanise the language and practice of business.	Tomorrows management systems must give as much credence to timeless human ideals such as beauty, justice and community as they do to the traditional goals of efficiency, advantage and profit.
25. S	Retrain managerial minds.	Managers' traditional deductive and analytical skills must be complemented by conceptual and systems-thinking skills.

Sources: Classification by author; Hammel (2009)

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# **Measurement and Evaluation of the Real Economic Convergence of the V4 Countries with the European Union**

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## **Abstract**

Socio-economic factors play a key role in the development of a society, the status of which is a means to measure and assess the tendencies and the degree of economic convergence or divergence. On the whole it can be said that this is a natural and continuous process that requires permanent engagement and which, subject to certain factors, occurs at different speeds. A key factor that affects the dynamics of these processes is geographical area. This is the case for the Visegrad (V4) countries within Central Europe. The development of this region has over many years been influenced by similar economic, cultural, geopolitical, natural and ethnic interests that have been intertwined through historical developments, power interests and the strong common desire to see their economies converge with those of Western Europe. The aim of the study presented in this article is to measure and evaluate the real level of economic convergence of the Visegrad countries eleven years after joining the European Union. This is achieved by the means of  $\beta$  - and  $\sigma$  - convergence using regression analyses for the monitored periods 2004-2014, 2004-2008 and 2008-2014.

**Keywords:** European Union, growth disparities, real economic convergence, optimal growth, steady state, Visegrad Group.

## **Introduction**

The Visegrad region forms an integral part of Central Europe and was conceived as a modern entity and an active member of the advanced structures of Western Europe. This is amplified and reflected in the historical-cultural needs on both sides. This process was compounded by the fall of the Iron Curtain and is fully reflected in the countries joint accession to the European Union (Filipova and Gilbert 2011). In terms of its genesis and connotations, the region has shown strong internal conviction and motivation to move

forward, which is visible in the growing strength and importance of Central Europe as it goes through different stages of development (Schreier 2015). On 1 May 2004, the European Union officially admitted ten new member states, the largest single enlargement in its history, bringing the total number of member states to twenty-five (Weiner and Diez 2009). The eastward expansion of the European Union saw the incorporation of economies with large disparities in terms of living standards and economic characteristics (Domonkos et al. 2015).

Reducing these disparities and narrowing the gaps between the V4 countries themselves, as well as between the V4 countries and the original members of the European Union, has become an urgent topic of discussion with regards to further growth and progress. The economic situation in the V4 countries during the examined period 2004-2014 was influenced by the interaction of a number of external and internal factors. Some of the most important factors were the initial structure of the economies, the intensity of investment, infrastructure status, transformation strategy, which sought to strengthen macro- and socio-economic growth, combined with the efficiency of state governance and public administration in the implementation of reforms (Radvanský et al. 2016). The economic baseline in each of the Visegrad countries was very similar, but in many ways dominated by differences that were subsequently modelled by their individual ability to adapt to the new economic environment. This, together with a qualified and motivated labour force, was a potentially positive starting point for the successful integration into the international environment and new structures (Berend 2016). The examined countries had, in light of their common history and similar predispositions, and not only those of a socio-economic nature, due to the convergence process, similar attributes that did not stand in the way of common and individual strategies in the form of options for future action and direction.

## **Material and methods**

In the European Union, a number of different groups gradually emerged with diverging opinions on the need, sustainability and success of the socio-economic convergence of member states. The differences between these groups lie in the time scale that convergence should be achieved, the macro- and microeconomic convergence criteria, and which form of convergence (nominal, real, structural) is the most important e.g. Buti, Martins and Turrini (2007), Marelli and Signorelli (2010), Deroose and Gaspar (2011), Katsikides and Hanappi (2016). Firstly, researchers, whose views have since been reflected in practice, suggested that the convergence of the economies before joining the Monetary Union was the only way to generate benefits without exceeding costs. The main thrust of this approach lay in socio-economic convergence. Once achieved, the integration process would be crowned with the introduction of the single currency. This approach is therefore often referred to as the coronation theory. This approach originated in the Council of Ministers in 1974 and is reflected in the European Commission directive on stability, growth and full employment. In 1989, at a summit in Madrid, the three phases for creating a monetary union were determined. The first phase began on 1 June 1990

with the drawing up of convergence programmes designed to improve the economic characteristics of the member states.

Furthermore, it was suggested that the convergence of the economies would create adequate conditions for eliminating currency fluctuations and their subsequent fixation (Barro and Alesina 2013). The promotion of the convergence criteria was to some extent connected with the speculative attacks on the currencies of the EU member states during the operation of the ERM (Exchange Rate Mechanism), which led to a currency crisis. The need to prepare adequately before entering was particularly promoted by the German Central Bank. A second group thought that setting convergence criteria was unnecessary and that the economies would gradually converge after joining the Monetary Union. In their opinion, the existence of the Monetary Union would naturally accelerate the convergence of the economies of the member states. The pioneer of this opinion was Professor Jeffrey A. Frankel from Harvard University. This approach is represented by the endogeneity hypothesis in an OCA (Optimum Currency Area), based on the pretext of improving individual performance criteria after joining the euro area. While most OCA studies are applied to independent countries, OCAs (e.g. Ishiyama's "The Theory of Optimum Currency Areas") may not correspond to national boundaries because of non-homogeneities within countries. As a result, the analysis among groups of countries is not always informative (Alesina, Barro and Tenreyro 2002). Moreover, there are also groups of researchers that work on the assumption that convergence prior to entering the euro area may be beneficial, but that it is not a precondition for its effective functioning. This opinion is maintained by the likes of Professor Paul De Grauwe (2014) of the London School of Economics, as well as Paulson and Mongelli (2008). According to them, convergence should not be a condition for EMU membership, since its significance lies in the reduction of costs associated with the loss of monetary policy and an increase in the benefits of euro area membership. Furthermore, countries should themselves determine the conditions under which their membership will be beneficial and set their own criteria for entry.

Convergence is a term that comes from the Latin word "convergere", meaning moving towards each other, while the opposite phenomenon is divergence i.e. an enlargement or deepening of differences. In the event that there are no significant changes, we talk about stagnation. Convergence is therefore a tendency for societies to evolve similarly in terms of their structures, processes and performances. Convergence occurs when the growth of poor or less developed economies is faster than that of wealthier ones i.e. the difference between two or more variables decreases over time, eventually becoming negligible or zero. Real convergence is based on a neoclassical approach, which is characterised by a market that is free and self-regulating, without state intervention. Approaches to convergence research can, from a theoretical point of view, be divided into two groups. Firstly, those that examine the convergence of GDP, and secondly, those that examine the convergence of price or income per capita, specifically the concepts of  $\beta$  - and  $\sigma$  -

convergence<sup>1</sup>. When there is a negative relationship between the growth rate of income per capita and an initial level of income during a test period, we talk about  $\beta$  - convergence (Sala-i-Martin, 1996). In other words,  $\beta$  - convergence occurs when poor economies grow faster than wealthier ones. Under this approach, a variety of estimation methods can be used. One of the most popular methods for estimating  $\beta$  - convergence is the least squares method:

$$\frac{1}{T} \cdot \log \left( \frac{y_{i,T}}{y_{i,0}} \right) = \alpha - \beta \cdot \log(y_{i,0}) + \varepsilon_i \quad (1)$$

where the left side of the equation represents the average output growth per capita in the period from 0 to  $T$  ( $T$  is the number of years/researched periods). This average growth is dependent on the initial level of product  $\log(y_{i,0})$ . Index  $i$  indicates the observed region. Based on the assumption that all regions have the same steady state  $\alpha$  and the time period is sufficiently long, then  $\beta = 1$ , while all regions are achieving identical product per person. In reality, the  $\beta$  coefficient indicates how much of a difference to the steady state the regions on average were able to eliminate. The secondary approach is a regression analysis statistical model called the fixed effects model:

$$\log \left( \frac{y_{i,T}}{y_{i,T-k}} \right) = \alpha_i - \beta \cdot \log(y_{i,T-k}) + \varepsilon_i \quad (2)$$

where the left side of the equation reflects relative growth in period  $T-k$  to  $T$  ( $k$  denotes a shift to the previous period and index  $i$  is the observed region). This relative growth is dependent on the past level of product  $\log(y_{i,T-k})$ . The third least squares method approach shows an average income growth at the time  $t_0$  to  $t_0+T$ , depending on the initial level of income  $\log(y_{i,t_0})$ . In this case, the  $\beta$  coefficient measures the value of the decline in growth rate of the product as its level increases by 1%. The higher the value of this ratio (see (3)), the faster the convergence process is:

$$\frac{1}{T} \cdot \log \left( \frac{y_{i,t_0+T}}{y_{i,t_0}} \right) = \alpha - \left( \frac{1-e^{-\beta T}}{T} \right) \cdot \log(y_{i,t_0}) + \varepsilon_{it_0,t_0+T} \quad (3)$$

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<sup>1</sup>  $\beta$  - convergence occurs when poor economies grow faster than wealthy ones, while  $\sigma$  - convergence refers to a reduction in the dispersion of levels of income across economies. The convergence models used for this study are based on the initial Barro and Balassa-Samuelson convergence effect, whereby the distortion in purchasing power parity results from international differences in relative productivity between the tradeable and non-tradeable goods sector.

In addition, a distinction is made between absolute (unconditioned) and conditional convergence. Absolute convergence refers to a situation where regions converge to the same steady state, whereby economies that are more remote (at the beginning of researched period) from this steady state tend to grow faster. Conditional convergence refers to a situation where regions converge towards different steady states. (In this case, it may also happen that regions do not converge at all. Under these circumstances, it is therefore necessary to include models of other explanatory variables that could help to explain the differences in the steady states e.g. savings interest rate, type of economic policy, level of technology, etc. However, a problem may occur in the quantification of these variables.)

With regards to the speed of the convergence, reference is often made to the term half-life (Radius needed), which expresses the time it will take to eliminate half the original gaps between regions. The half-life is derived from the term  $e^{-\beta T}$  as follows:

$$e^{-\beta T} = \frac{1}{2} \quad (4)$$

where  $\beta$  is the estimated coefficient of convergence. The shorter it takes to eliminate this gap, the faster the convergence process is. In cases where there is a need to approximate the average income per capita in real wages, the following equation is used:

$$\ln\left(\frac{w_{i,T}}{w_{i,T-k}}\right) = \alpha_i - \beta \cdot \ln(w_{i,T-k}) + \varepsilon_i \quad (5)$$

where  $w$  is the average real wage,  $\alpha_i$  is the layered constant for a region  $i$ ,  $\beta$  is the coefficient of convergence and  $\varepsilon_i$  is a random component. The whole equation expresses the relative growth of average real wages at  $T-k$  up to  $T$  depending on their past level  $\ln(w_{i,T-k})$ . During  $\sigma$ -convergence we measure whether the variance of income per capita over time between groups of economies is decreasing. Sample variance can be calculated based on the relationship:

$$\sigma_t^2 = \frac{1}{N} \sum_{i=1}^N [\log(y_{it}) - \mu_t]^2 \quad (6)$$

where  $\mu_t$  is the sample mean  $\log(y_{it})$  and  $\sigma_t$  is the standard deviation. Moreover, the coefficient of variation can be used as an alternative:

$$CV = \frac{\sigma_t}{\mu_t} \quad (7)$$

Sala-i-Martin (1996) explains that there is a relationship between the aforementioned types of convergence and concludes that  $\beta$ -convergence is a necessary but not sufficient condition for  $\sigma$ -convergence. Additionally, when  $\sigma$ -convergence is established, it is very likely that  $\beta$ -convergence is also present, as well as being a necessary condition for it.

This research is part of KEGA No. 018EU-4/2014 European Marketing – Factors and Determinants of the Single European Market (monograph with multimedia support), VEGA No. 1/0178/14 Common Consumer Policy of the EU and its Application in the Slovak Republic and the Impact on Consumer Education, and VEGA No. 1/0224/15 Consumer Behaviour and Individual Consumption in Periods of Unemployment and Relative Deprivation in the Population: Implications for Decision-making Bodies and Businesses. The purpose is to measure and evaluate the real economic convergence of gross domestic product (GDP) expressed in purchasing power standards (PPS) and comparative price levels (CPL) based on the models of Barro (2004), Sala-i-Martin and Balassa (1964), in particular those focusing on  $\beta$ - and  $\sigma$ -convergence. The measured  $\beta$ -convergence equation used in this research originates from the following equation:

$$\frac{1}{T} \cdot \log\left(\frac{y_{i,T}}{y_{i,0}}\right) \quad (8)$$

where  $t_0$  and  $t_0+T$  represent average growth, dependent on an initial level of  $y_{i,t_0}$ , and  $T$  represents the number of years in the monitored period. The assumption is also made that there is a steady state during  $\beta$ -convergence. During  $\sigma$ -convergence the focus is on

detecting possible catching-up processes as a reduction of the disparities among the V4 countries over time. The following equation is used to measure  $\sigma$  - convergence:

$$\sigma_t = \sqrt{\left(\frac{1}{N-1}\right) \sum_{i=1}^N (R_{it} - \bar{R}_t)^2} \quad (9)$$

where  $R_{it} = Y_t - Y_t^b$  variance expresses the degree of variation of the values compared to the average or the convergence difference of the selected countries and the benchmark European Union market.  $R_t$  represents the mean of the difference in the selected period, while  $n$  is the number of observation years - periods. The  $\sigma$  parameter is positive and full integration is achieved when  $\sigma$  reaches zero. It is affected by outliers and by the variable measurement of unit. For smaller samples of countries, the denominator is replaced with  $(n-1)$  instead of  $n$ , while the principle is to express an original dispersion at *time period t1* over a newer dispersion of countries at *time period t2* (Barro 2004).

## Results and Discussion

In this section the research results have been combined with Eurostat data in order to measure and evaluate the real convergence of the Visegrad countries with the developed economies in the West during the period 2004-2014 against that of the EU average. The reason for this is that the efforts of the V4 countries lie in convergence and alignment with these countries and structures, while the EU average provides a basis for objective results because it represents a representative sample that is both mature, due to the continued efforts towards pro-European integration, and realistic in terms of measurement as it represents the steady state to which the converging countries are seeking to get closer to. The Visegrad countries form a perfect sample set due to the degree of homogeneity between them in terms of characteristics, values, socio-economic factors, history, culture and location. On this basis, the following research hypotheses were formulated and applied to all models:

HA0: The V4 countries have not converged with the EU during the selected time period and based on the measured unit.

HA1: The V4 countries have converged with the EU during the selected time period and based on the measured unit.

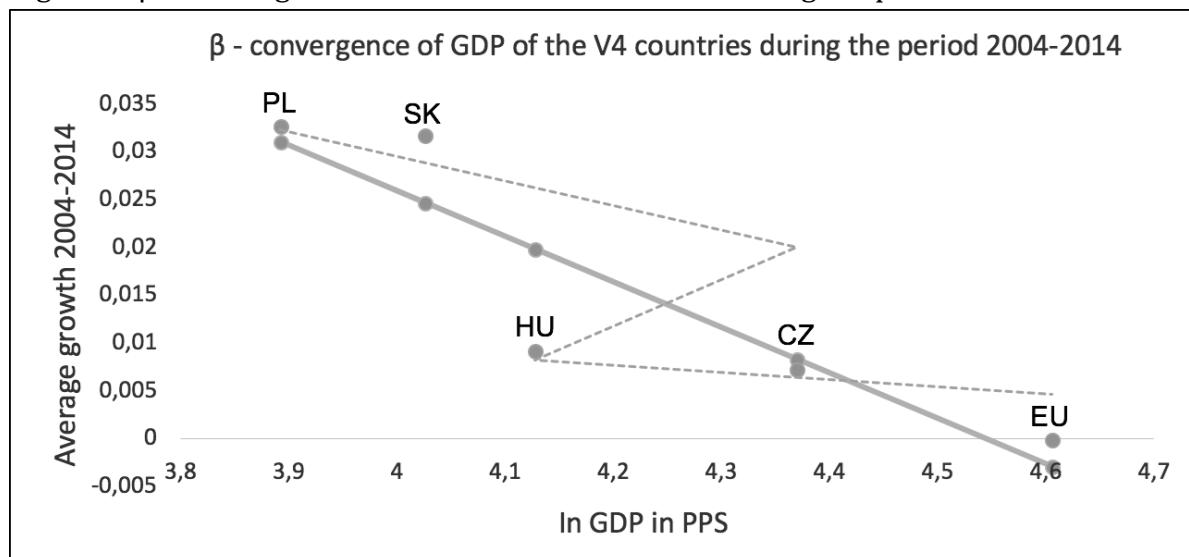
The following table 1 shows the regression outputs that are required for the analysis of the real convergence of the V4 countries. Regression equations for each model were estimated using the least squares method. The table is logically divided into three parts (time periods) during which the V4 countries diverge from or converge with the European Union. In the first model,  $\beta$  - convergence of gross domestic product per capita expressed in PPS is analysed in the V4 countries against that of the European Union for the entire period 2004-2014, in the second model for the period 2004-2008, and in the last model for the period 2008-2014. This makes it possible to cover the whole-time period, including the financial crisis. It is important to note that the economic crisis of 2008 (in the US), and from 2009 onwards in Europe, did not manifest itself in Eastern Europe

during the measured period. The factors that resulted in the crisis have been the focus of many studies and have been broadly discussed by, for example, Brown (2011), Crespo (2012), Blunden (2013), Mishkin (2013), Bruun (2014), Ringe (2015), Mishkin (2015) and Minkenberg (2015). Analyses of this topic show common characteristics, as they all underline the simultaneous development of more than one crisis factor, while the evolution of the GDP growth indicator captures the differences in periods both before and after the year 2009 (Páleník, et al., 2015).

### Real $\beta$ - convergence of GDP in the V4 countries

In the first model, the V4 countries converged with the EU. The regression coefficient  $R^2$  is high (80.62%) and the estimates for the regression coefficients are statistically significant (p-value of less than 5%), which indicates  $\beta$  - convergence (the null hypothesis is rejected, therefore the compliance coefficients of the regression line go to zero). Poland and Slovakia are above the regression line, which means that in the period 2004-2014 they grew faster than their GDP when compared with the other countries. In contrast, Hungary and the Czech Republic saw significantly lower increases in GDP, with Hungary performing particularly badly, as indicated by the distance from the regression line, i.e. economic growth should have been more than it actually was.

Figure 1:  $\beta$  - convergence of GDP of the V4 countries during the period 2004-2014



Source: Author's calculations, Eurostat data

In the second model, for the period 2004-2008, the convergence of the GDP of the V4 countries with the EU could not be proved. The regression coefficient  $R^2$  is low (37.38%) and the estimates for the regression coefficients are not statistically significant (p-value is greater than 5%), which does not indicate  $\beta$  - convergence. Slovakia is situated above the regression line, which means that in the period it grew faster than its GDP when compared to the other countries. The Czech Republic is on the regression line, which means that it grew in line with its level of GDP. In contrast, Hungary and Poland saw significantly lower increases, with Hungary performing particularly badly, as indicated by

the distance from the regression line, i.e. economic growth should have been more than it actually was.

Tab. 1: Real convergence of GDP in PPS in different time periods

Regression equation for GDP	Time period	Slope parameter	p-value	R <sup>2</sup>	Evaluation
y=-0.047x+0.2163	2004-2014	-0.047	0.038	80.62	β - convergence
y=-0.055x+0.2540	2004-2008	-0.055	0.273	37.38	β - divergence
y=-0.054x+0.4832	2008-2014	-0.054	0.042	79.43	β - convergence

Source: Author's calculations, Eurostat data

In the third model, for the period 2008-2014, the V4 countries converged with the EU. The regression coefficient R<sup>2</sup> is high (79.43%) and the estimates for the regression coefficients are statistically significant (p-value of less than 5%), which indicates β - convergence (the null hypothesis is rejected, therefore the compliance coefficients of the regression line go to zero). Poland is above the regression line, which means that in the period it grew faster than its GDP when compared with the other countries. The Czech Republic is on the regression line, which means that it grew in line with its level of GDP. In contrast, Hungary and Slovakia saw significantly lower increases, with Hungary once again performing particularly badly, as indicated by the distance from the regression line, i.e. economic growth should have been more than it actually was.

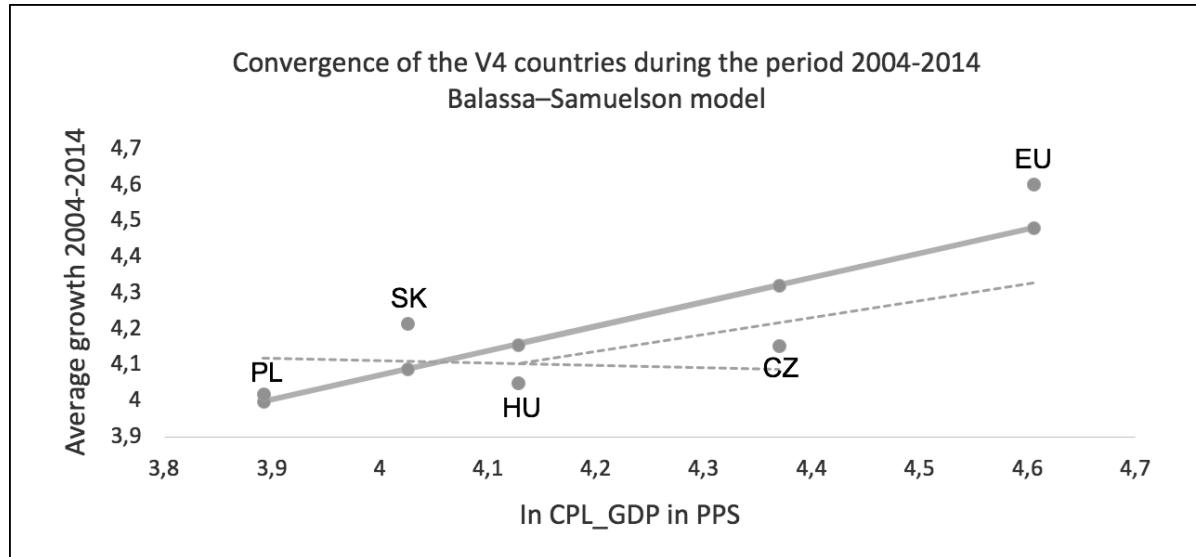
### Combined models of nominal and real convergence

In addition to the real convergence of GDP per capita expressed in PPS, there is also nominal convergence represented by the convergence of comparative price levels (CPL). In the combined models that follow for the periods 2004-2014, 2004-2008 and 2008-2014, an analysis is made of nominal and real convergence, whereby faster growth in real GDP in the less developed countries in comparison to the developed ones is primarily the result of faster convergence in labour force productivity and its subsequent influence on gross domestic product per capita expressed in PPS in relation to the price levels in the V4 countries against that of the European Union.

In the first model, for the period 2004-2014, the relationship of the price level to GDP expressed in PPS for the V4 countries was measured against that of the European Union. A positive dependence and connection between real and nominal convergence could not be proven because the correlation coefficient is high (82.13%) and the regression coefficient of determination is relatively high (67.69% > 50%), although the p-value is greater than 5% (in this case 8.8%). Despite the slightly higher p-value, it is clear that there is a very close relationship between the nominal and real variables, which is a positive slope parameter. A look at the distance of the V4 countries from the regression line shows that Hungary and the Czech Republic are located below the regression curve, which means that during the period their price levels did not correspond to the economic level of their economies (prices in these countries were higher than the performance of

the economy). In contrast, Poland is on the regression line, which means that its price level corresponds to the performance of the economy. Slovakia and the EU average are slightly above the regression line.

Figure 2: Convergence of the V4 countries during the period 2004-2014



Source: Author's calculations, Eurostat data

The second model, for the period 2004-2008, clearly shows a positive dependence and a connection between the real and nominal convergence of the V4 countries and the EU. The correlation coefficient is extremely high (91.13%), and the regression coefficient of determination (83.50%) and the p-value are statistically significant. When compared to the measurements obtained under the previous period, the dependence of the researched variables increased. Slovakia is on the regression line, which means there is an equilibrium (steady state) between price levels and GDP. Poland is this time slightly above the regression line, with the position of Hungary and the Czech Republic remaining unchanged.

Tab. 2: Nominal and real convergence of GDP and CPL in different time periods

Regression equation	Time period	Slope parameter	p-value	R <sup>2</sup>	Correlation coefficient	Convergence
CPL=0.6769GDP + 1.3642	2004-2014	0.6769	0.0881	67.69	82.13	no
CPL=0.5053GDP + 2.2114	2004-2008	0.5053	0.0299	83.5	91.13	yes
CPL=0.8932GDP + 0.3854	2008-2014	0.8932	0.0383	80.68	89.82	yes

Source: Author's calculations, Eurostat data

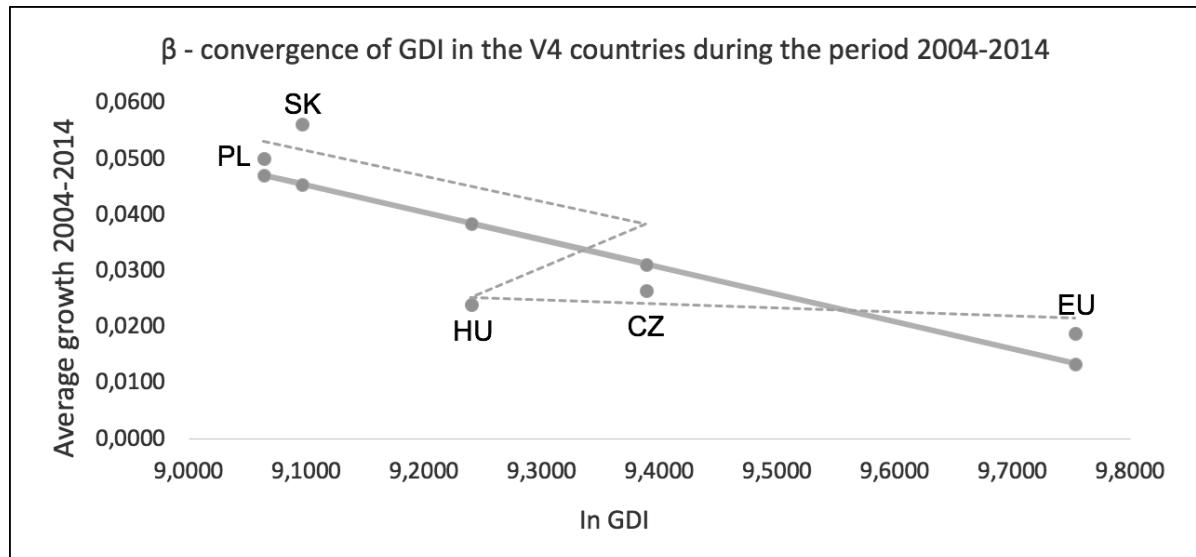
On this basis it can be concluded that after joining the European Union the price level in Slovakia compared to the other V4 countries stabilized and matched the performance of the economy, and that the remaining V4 countries flourished, showing a positive trend, albeit with minor deviations, towards meeting the price convergence criteria corresponding to the EU average. Another aspect is that the convergence of price levels stabilised in individual V4 countries after joining the European Union because those countries complied with the requirements of price convergence and at the same time, caught up with older member states.

In the third model, for the period 2008-2014, it was also possible to clearly demonstrate a positive dependence and a connection between the real and nominal convergence of the V4 countries to the EU. The correlation coefficient (89.82%) and regression coefficient of determination (80.86%) are extremely high and the p-value is statistically significant. When compared to the measurements for the previous period, the dependence of the researched variables was slightly reduced. Slovakia again achieved steady state, as the only V4 country closest to the EU average. The position of Poland and the Czech Republic in terms of their position relative to the regression line remains unchanged, only the measured value changed. However, the position of Hungary at the beginning of 2008 significantly improved, this time located only slightly below the regression line.

The measurements prove there is a link (positive relationship) between nominal and real convergence. If a comparison is made of the individual periods, it is evident that the dependence of the researched nominal values decreased slightly compared to the previous periods, whilst the nominal convergence only took place on the basis of the strengthening of domestic nominal rates (with exception to Slovakia, which had the Euro from 2009 onwards). The most significant convergence of the V4 countries with the European Union occurred during the period 2004-2008. The similar pattern of convergence can be explained by the fact that the V4 countries lie in close geographical proximity to each other, share a common history and have significant trade links.

### **Real $\beta$ - convergence of GDI in the V4 countries**

In this part, the convergence of the V4 countries and the European Union during the period 2004-2014 is not analysed from the macro-economic perspective. Gross domestic product and other economic indicators are mostly used to determine real convergence, but they do not tell us a lot about the real situation in ordinary households. On the basis of this argument, the most plausible and most commonly used indicator to determine social convergence was therefore applied, namely the measure of the real living standards of households (used by institutions such as National Banks, Eurostat and OECD), specifically the gross disposable income (GDI) of households (real adjusted gross disposable income of households per capita), which overestimates regional differences in income because it does not take into account the impact of taxes.

Figure 3:  $\beta$  - convergence of GDI in the V4 countries during the period 2004-2014

Source: Author's calculations, Eurostat data

In the first model, for the period 2004-2014, the convergence of living standards of the V4 countries with the EU was proven. The regression coefficient  $R^2$  is statistically significant (64.75%) as is the coefficient of determination (80.47%). Although the estimates of the regression coefficients exceed the threshold of 5% as a whole, the regression analysis itself shows that three out of the four V4 countries successfully converged with the EU with regards to standards of living. Poland managed to achieve steady state (on the regression line), Slovakia grew at a rate faster than the standard of living model estimate, the Czech Republic approached steady state (located just below the regression line), with Hungary showing the lowest potential convergence among the V4 countries with the EU.

Tab. 3: Real convergence of GDI in different time periods

Regression equation for GDI	Time period	Slope parameter	p-value	$R^2$	Evaluation
$y=-0.048x+0.4853$	2004-2014	-0.048	0.1	64.75	$\beta$ - convergence
$y=-0.055x+0.5626$	2004-2008	-0.055	0.34	29.84	$\beta$ - divergence
$y=-0.046x+0.4724$	2008-2014	-0.046	0.065	72.98	$\beta$ - convergence

Source: Author's calculations, Eurostat data

In the second model, for the period 2004-2008, the convergence of the standards of living of the V4 countries with the EU could not be clearly proven. The regression coefficient  $R^2$  is low (29.84%). This is due to the estimates for the regression coefficients not being statistically significant (p-value is considerably higher than 5%), which clearly indicates a lack of  $\beta$  - convergence. On an individual level, as in the previous case, only Poland converged. Hungary and the Czech Republic are in the lower range of the x-axis and Slovakia is significantly above the regression line.

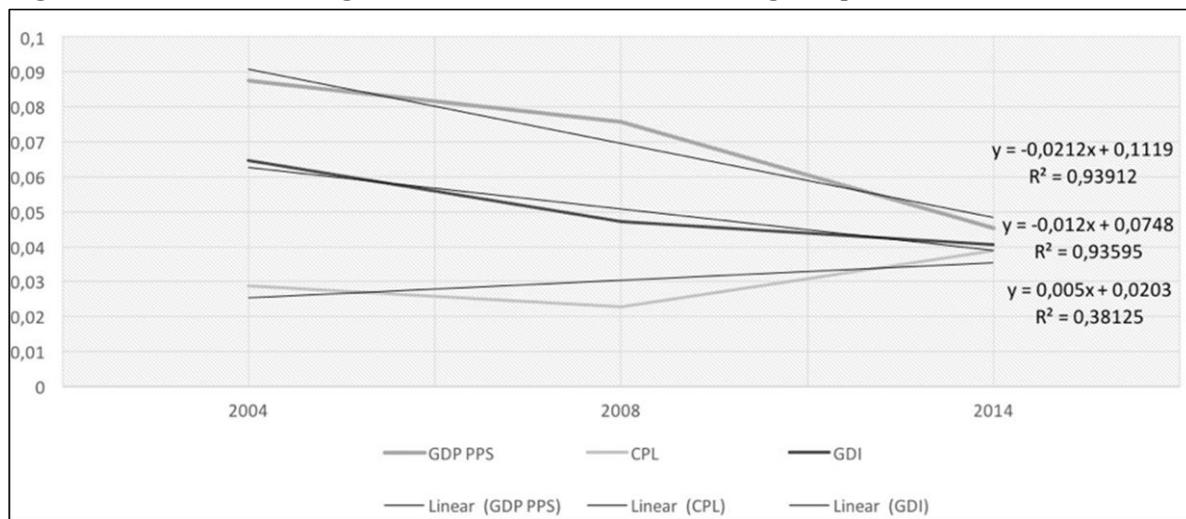
In the third model, for the period 2008-2014, the V4 countries converged with the EU. The regression coefficient  $R^2$  (72.98%) and the coefficient of determination (85.43%) are high

and the estimates for the regression coefficients are statistically significant (despite a slight 0.015% cross the border), which indicates  $\beta$  - convergence (i.e. the null hypothesis is rejected, therefore the compliance coefficients of the regression line go to zero). Slovakia is slightly above the regression line (as is Poland, which grew slower than Slovakia), which means that in this period it grew faster than the level of living standards and was close to steady state. In contrast, Hungary grew less, which means that at the determined level of standard of living it should have grown more. On the whole, during the researched period, the V4 countries converged with the European Union, with Slovakia and the Czech Republic converging the most.

### Real $\sigma$ - convergence in the V4 countries

In the last model, an analysis is performed of  $\sigma$  - convergence by measuring the standard deviation indicators based on natural logarithms in relation to the level of real GDP in PPS of the V4 countries against that of European Union. This is done in an effort to partially, respectively completely, reduce the variation (reduction of variance of logarithms) in the level of GDP among the countries researched and over the time period. Real  $\sigma$  - convergence is indicated by a reduction in the variation coefficient during the observed period and is paired with the expectation of similar levels of growth in all countries.

Figure 4: Real  $\sigma$  - convergence of the V4 countries during the period 2004-2014



Source: Author's calculations, Eurostat data

A visible change (decrease/negative slope) can be observed as a result of the reduction in asymmetries between the countries. As can be seen in Figure 4, in the period 2004-2014,  $\sigma$  - convergence only occurred in the V4 countries with regards to GDP and GDI, whilst  $\sigma$  - convergence of the price levels was not confirmed. When it comes to future macro-economic development, according to Karol Morvay, a broadly similar trend can be expected to that in previous years, i.e. similar levels of macro-economic stability and stable rates of economic growth. However, it should be noted that the set of positive development phenomena since joining the EU, with exception to the crisis period, cannot be of a permanent character.

Tab. 4: Real  $\sigma$  - convergence of GDP, CPL, GDI and household income in different time periods

	<b>Country</b>				<b><math>\sigma</math></b>
<b>GDP in PPS</b>	<b>SK</b>	<b>PL</b>	<b>CZ</b>	<b>HU</b>	
2004	1.7482	1.6902	1.8976	1.7924	0.0877
2008	1.8573	1.7324	1.9085	1.7993	0.0758
2014	1.8865	1.8388	1.9294	1.8325	0.0453
<b>CPL</b>					
2004	1.7404	1.7267	1.7443	1.7931	0.029
2008	1.8445	1.8407	1.8882	1.842	0.0229
2014	1.8235	1.7388	1.8014	1.7574	0.039
<b>GDI</b>					
2004	3.9503	3.9364	4.0773	4.0127	0.0646
2008	4.1066	4.0345	4.1302	4.0427	0.0472
2014	4.1946	4.1538	4.2064	4.1173	0.0406

Source: Author's calculations, Eurostat data

## Conclusion

The research presented shows that the V4 countries have converged and still are converging with the European Union on a macro-economic level. Convergence on the economic level combined with political decisions have naturally had an impact on the living standards of households, thereby having a noticeable effect on reducing the disparities among the V4 members. Based on the obtained data and research, it is possible to state that the second wave of pro-European transformation since 2004 has been the most successful in the Czech Republic (subsequently Slovakia, Poland and Hungary), which has long demonstrated admirable macro-economic development, particularly in terms of price levels. In contrast, the slowest transformation was observed in Hungary, which is the only member of the Visegrad group to have chosen a gradual transformation process. In the period 2004-2008, the V4 countries converged with the European Union. For the crisis period 2008-2012,  $\beta$  - and  $\sigma$  - convergence could not be clearly demonstrated for the V4 as a whole (only on an individual basis), however, convergence has been clearly happening again since 2012.

Slovakia, as well as the other transitional V4 countries, experienced a continual increase in the number of seasonal and temporary cross-border workers prior to 2008, which may, among other factors, be attributed to the opening up of the European labour market (Menbere, 2015), while differences in productivity in the EU are the main determinants of cross-border prosperity levels (Schwab, et al., 2015). For the period 2004-2014,  $\sigma$  - convergence was successfully proven. The reason for applying  $\sigma$  - convergence was to better capture the course of the convergence among the V4 group with the European Union with regards to GDP and GDI (as the real living standards of households), which are the most indicative and commonly used macro-economic indicators, and CPL. Furthermore, a positive correlation was shown to exist between nominal (comparative price level) and real (GDP per capita) convergence during the period 2004-2008 for all

members of the Visegrad group, as well as during the period 2004-2014 for the majority of the Visegrad group, the exception being Hungary, whose economy failed to grow continuously throughout the monitored period at a pace that matched its economic level.

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# Promoting Cross-Border Entrepreneurial Competence

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## Abstract

As a result of increasing globalisation, universities are being confronted by the challenge of adapting their teaching standards to meet the demands of a more dynamic labour market. Entrepreneurship education provides an important contribution to improving students' entrepreneurial competencies and stimulating innovative work behaviour. Based on the current state of research, as well as on the results of an empirical comparative study at partner institutions of applied sciences, this article describes how the internationalisation of curricula with regards to the academic teaching of entrepreneurship and the promotion of entrepreneurial competence can be structured. An online survey of students carried out within the framework of an EU project, as well as joint class observations, revealed some important differences in study-related matters, which emphasises the need for stronger cooperation in terms of cross-border employability. With regards to the promotion of entrepreneurial thinking and behaviour, it appears appropriate to intensify the use of case-based instructional designs within teaching standards, to extend the supportive offers to students and to enable engagement with entrepreneurship in various courses of studies.

**Keywords:** entrepreneurship education, entrepreneurial competencies, university teaching standards, cross-border cooperation.

## Introduction

Against the backdrop of increasing globalisation, universities are facing a major challenge in terms of adapting their teaching to the fluctuating conditions of the open EU labour market. Particularly in the European border regions, where many people commute across borders, it seems necessary to develop common academic standards for some disciplines in cooperation with foreign education institutions in order to increase mobility and further develop the European labour market. Within this context, there is great potential in the teaching of entrepreneurship, which can make an important contribution to the ability of students to carry out their own entrepreneurial activities (entrepreneurship)

and stimulate innovative work behaviour (intrapreneurship, Messmann and Mulder 2012) independent of cultural differences in companies (Krämer 2007; Schmette 2007).

In addition to imparting business management expertise (e.g. start-up financing, choice of legal form, human resources management), the tasks involved in the teaching of entrepreneurship include increasing interest in entrepreneurship and promoting entrepreneurial thinking and behaviour (e.g. recognising and assessing opportunities and risks, conflict management, building up and using networks). In this respect, the teaching of entrepreneurship requires a combination of experience-based learning, the strengthening of entrepreneurial competence and support for unconventional ways of thinking (Wilson 2008).

In January 2017, a joint three-year EU project entitled "Entrepreneurial Competencies in the Czech-Bavarian Labour Market" was launched by the Ostbayerische Technische Hochschule Regensburg (OTH) and The Institute of Technology and Business in České Budějovice (VŠTE) with the long-term goal of strengthening the academic teaching of entrepreneurial thinking and behaviour. The focus of the project is on cooperation in the area of start-up qualification and the ability of companies to innovate, the internationalisation of curricula for entrepreneurship education and an increase in cross-border employability in the open labour market (Caha et al. 2017).

Based on the theories of the origin of entrepreneurial intention (Aldrich and Cliff 2003; Becker 1993; McClelland 1961, 1987; Ajzen 1991), the findings of interest (Krapp and Prenzel 2011) and competence research (Biggs and Tang 2011; Mandl and Hense 2004; Müller 2013; Renkl 2015; Weinert 2001) and the findings of empirical studies (e.g. Audretsch et al. 2016; Barnir, Watson and Hutchins 2011; Brandstätter 2011; Brännback and Carsrud 2017; Heinrichs 2016; Heinrichs and Jäcklin 2017), an attempt has been made in this article to analyse the basic entrepreneurial competencies that can be effectively promoted within an academic context.

The competence model of entrepreneurial thinking and behaviour published by Mandl and Hense (2004) hereby serves as a basis. In accordance with the aim to identify relevant differences in study-related matters at both cooperating institutions of applied sciences, an online survey of students was conducted within the framework of the project. In addition, modules were analysed and classes observed in order to obtain detailed information about the didactic concept for the mediation of entrepreneurial thinking and behaviour (Caha et al. 2017).

This article initially focuses on entrepreneurial thinking and behaviour from the perspective of the applied didactic methods at universities. Against the backdrop of the Bologna reforms and as a fundamental source for the survey conducted, both the concept of competencies of Weinert (2001) and the model of entrepreneurial competencies of Mandl and Hense (2004) will be explained. Based on this, the aims of the study will be set out and the methodological procedure documented. Both the examined random sample and the results of the questionnaire survey will be described. In addition, the analyses

carried out for the study will be examined. Subsequently, the results of the conducted study will be commented on extensively, including their implications for didactic practise

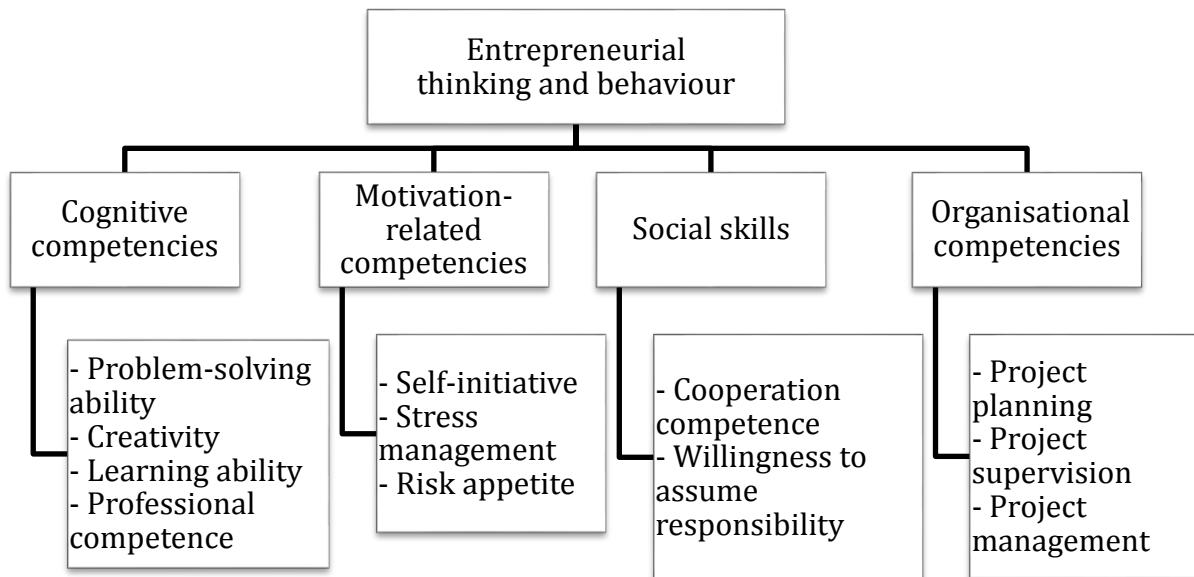
### **Entrepreneurial thinking and behaviour from the perspective of the applied didactic methods at educational institutions**

The establishment of a single European Higher Education and Research Area is one of the central objectives of the Bologna Process. A necessary prerequisite for this comparability, however, is the transparency of the learning outcomes to be achieved with a degree (Hawelka 2013). Transnational standards for learning objectives motivate students to take up study programmes or internships abroad. They also make it easier for them to change universities and to position themselves in the common labour market. The desired, clearly formulated learning outcomes are the basis for the planning of a course of study, as well as for the (further) development of it.

With this in mind, the first stage of this study was to determine a definition of entrepreneurial competence and identify its subcomponents. The focus was on entrepreneurial skills and abilities that can be successfully promoted within an academic context. The definition of competence used in this article is based on that of Weinert (2001), who regarded competencies as being "all the cognitive abilities and skills needed to solve certain problems, as well as the associated motivational, volitional and social readiness and abilities to successfully and responsibly use problem solving in variable situations" (p. 27).

Mandl and Hense (2004) understand entrepreneurial thinking and behaviour to be a combination of different sub-competencies (see Figure 1). In accordance with this definition, Heinrichs (2016) also distinguishes between cognitive, motivational, emotional and volitional aspects of entrepreneurial competence, which are necessary to cope successfully with crisis situations in everyday business life.

Figure 1: Competence model of entrepreneurial thinking and behaviour



Source: Mandl and Hense 2004, p. 9.

Self-reflection, experience (Gruber, Harteis and Rehrl 2006) and the opportunity to learn from one's own mistakes (Harteis, Bauer and Gruber 2008) also make a significant contribution to the development of entrepreneurial thinking and behaviour. Overall, within entrepreneurship education, didactic approaches are moving away from being instructional towards creating an activity-based learning environment (this can be seen as a displacement from "learning about" to "learning for", Rae 2010). However, the effects of the educational measures have not been sufficiently examined yet. A few studies including the pretest-posttest-design and a control group were conducted, for example, by Peterman and Kennedy (2003) and by Souitaris, Zerbinati and Al-Laham (2017). Both studies proved that attending an educational teaching session on entrepreneurship significantly strengthens entrepreneurial intentions.

Furthermore, Weber, von Graevenitz and Harshoff (2009) established proof of the positive effects of the perceived attractiveness and enforceability of forming a business. A research team led by Heinrichs (Heinrichs 2016; Heinrichs and Jäcklin 2017) developed a case-based learning environment (critical incidents in the form of vignettes) which was subsequently implemented and evaluated. The starting point for the conception of a new learning environment was based on the fact that not only "sense of success", but also "sense of failure" should be transmitted (Oser and Volery 2012). The evaluation results revealed a significant improvement in entrepreneurial knowledge ( $p = .004$ ,  $d = 0.96$ ,  $N = 20$ ,  $M_1 = 3.83$ ,  $SD_1 = 1.07$ ,  $M_2 = 4.46$ ,  $SD_2 = 0.63$ ) as well as a significant increase in entrepreneurial self-efficacy ( $p = .025$ ,  $d = 0.35$ ,  $N = 20$ ,  $M_1 = 4.11$ ,  $SD_1 = 0.99$ ,  $M_2 = 4.52$ ,  $SD_2 = 0.84$ ) (Heinrichs 2016; Heinrichs and Jäcklin 2017).

## **Methods and Data**

The teaching of entrepreneurship can significantly strengthen the development of entrepreneurial intention as well as entrepreneurial thinking and behaviour. Since a firm intention only arises through the interactions between an environment and a person (Estay, Durrieu and Akhter 2013), it is necessary to not only examine the contextual conditions, but also the personal characteristics of the students.

With this in mind, a cross-domain online student survey was conducted at both institutions of applied sciences. The questions focused, on the one hand, on the contextual conditions (e.g. the possibility of specialising in entrepreneurship, the existing offers for those interested in setting up a business) and, on the other hand, on the relevant personal characteristics (e.g. interest in entrepreneurship, management motivation). The aim of the survey was to identify relevant differences between the German and Czech academic environments and in the personal characteristics of the German and Czech respondents.

In addition, the modules of the business degree programmes in which entrepreneurship can be selected as a major field of study were analysed with regards to the promotion of entrepreneurial competence. Conclusions were drawn about the teaching of relevant entrepreneurial skills, thereby taking into account the learning objectives in relation to the teaching methods used and the types of examinations set (constructive alignment approach, Biggs and Tang 2011).

Furthermore, joint class observations were undertaken at the partner institutions of applied sciences on the basis of an observation guide. The aim of the observations was to compare the existing didactic approaches to teaching entrepreneurial thinking and behaviour.

### **Survey of students**

As previously mentioned, a non-experimental cross-sectional field study (questionnaire survey) was planned and conducted during the summer semester of 2017 in order to verify the above-mentioned objective. Details of the web-based survey of students follow below.

#### *Description of the random sample*

The data acquisition took place simultaneously at both institutions of applied sciences through an online questionnaire. In total, 132 students participated in the survey ( $N = 132$ ). At the time of the data acquisition, 57.6% of the respondents were enrolled at VŠTE and 42.4% at OTH. Of the respondents, 66.7% were female and 33.3% male. The majority of the respondents (84.2%) were aged 18 to 24 years. At the time of the data acquisition, 63.6% of the respondents were studying business administration.

#### *Survey materials*

In order to identify relevant differences between German and Czech students, both features of the academic environment and relevant personal characteristics were

included in the online questionnaire. The main focus hereby was on variables which could contribute to the formation of entrepreneurial intentions. The *academic environment* regarding the promotion of entrepreneurial thinking and behaviour was operationalised through the use of a scale ( $\alpha = .84$ ) consisting of 14 items (exemplary item: "The atmosphere at my institution of applied sciences is inspiring me to develop business ideas for my own enterprise"). An abbreviated and adapted version of the corresponding scale of the Global University Entrepreneurial Spirit Students' Survey (Bergmann and Golla 2016) was used for this purpose. For the students' survey on *entrepreneurial knowledge*, a scale consisting of 10 items was used ( $\alpha = .82$ , exemplary item: "Please assess your previously acquired competencies in establishing a business") (Bergmann and Golla 2016). In order to measure the subject-specific *interests* of students in entrepreneurship, an adapted and abbreviated questionnaire regarding the interest of study (Schiefele et al. 1993) was used. The scale consisting of three items takes into consideration personal value-oriented valences, as well as the intrinsic character of interest ( $\alpha = .80$ ; exemplary item: "It is very important to me that I can attend entrepreneurship classes"). In order to measure the *interest in leadership*, the interest in leadership scale of Nicholson and Arnolds (1991) was used. The scale, which consists of five items, measures on a seven-point Likert-scale the interest in assuming management responsibly ( $\alpha = .83$ ; exemplary item: "I want to lead employees").

### *Analysys*

The statistics programme IBM SPSS 24 was used for the analyses. First of all, fundamental analyses of the scales were carried out for the control of distributional assumptions, as well as to verify reliability and validity. Various descriptive analyses were subsequently realised and the assessment of differences in mean values examined using Mann-Whitney U-tests and a t-test.

### **Joint class observations**

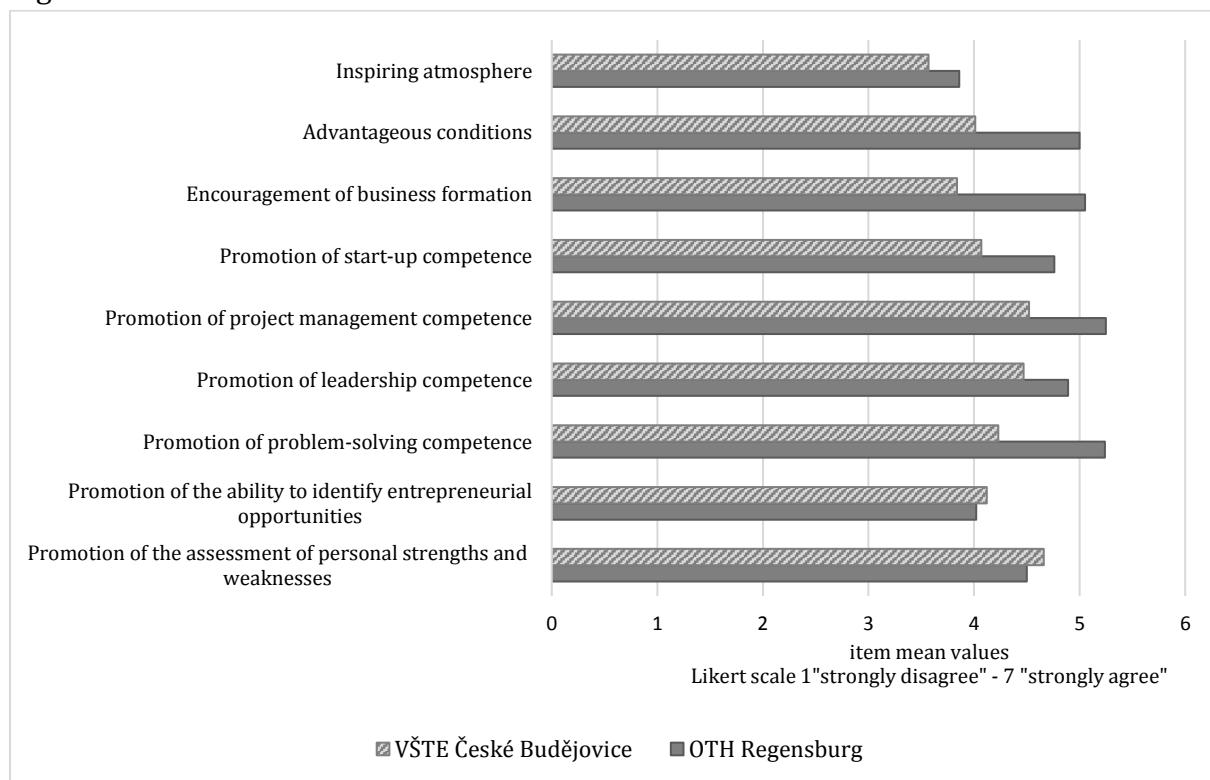
The joint class observations were carried out by two observers based on the approved observation guide of May 2017. The observation guide was developed on the basis of the category scheme for the analysis of qualitative data from the Teaching Analysis Poll. The applied categories are based on the empirically verified aspects of good higher education teaching e.g. interaction management, explicit objectives, the facilitation of experiencing autonomy and competence, and the promotion of learning strategies (Hawelka 2017). The categories were evaluated independently by two observers after every teaching session in written form and subsequently compared.

### **Results**

Firstly, an analysis was performed of the entrepreneurial intentions of the students. Only 3.6% of the respondents of OTH ( $N = 56$ ) stated that they would seek business succession directly after graduating. Furthermore, at the time of the survey, none of the respondents at OTH could imagine establishing their own company immediately after graduating. In

contrast, 11.0% of the respondents at VŠTE ( $N = 73$ ) could. However, students were more open to business succession or establishing their own companies (21.4% of the German respondents and 38.4% of the Czech respondents) five years after graduating. Secondly, the differences in the academic environment between OTH and VŠTE were analysed descriptively with regards to entrepreneurial knowledge. The results showed that German students, even though their empirically measured intention to establish a company was lower than that for Czech students, evaluate almost every relevant aspect of establishing a business more positively (Figure 2).

Figure 2: Evaluation of the academic environment



Source: Authors

An analysis was subsequently carried out to determine whether German and Czech students display statistically significant differences in their (a) assessment of the institutional environment with regards to the promotion of entrepreneurial thinking and behaviour, (b) entrepreneurial knowledge, (c) interest in entrepreneurship and (d) leadership motivation. To this end, appropriate Mann-Whitney U-tests and a t-test were performed to obtain independent samples. The results show that OTH students statistically significantly evaluate the establishment of a business and the promotion of entrepreneurial thinking and behaviour at institutions more positively ( $t_{(125)} = 3.44, p < .01, N = 127$ ). By contrast, no statistically significant differences among the two comparative groups could be identified regarding knowledge of business start-ups (respectively entrepreneurial knowledge) and interest in entrepreneurship ( $z = 1.74, p > .05, N = 131$  and  $z = 1.57, p > .05, N = 130$ ). However, the findings show that German

students have a statistically significant higher motivation to adopt leadership roles than Czech students ( $z = 2.64, p < .01, N = 132$ ).

The results of the analyses of business studies modules and the joint class observations show that the teaching of entrepreneurship at both institutions of applied sciences is mainly lecturer-centred. At OTH, various student-centred settings (e.g. business simulation, project work) are also used in the teaching of entrepreneurship. However, such settings are seldom employed at VŠTE. Furthermore, at both institutions, asking questions was identified as the most widely used activating method as was establishing practical relevance in order to motivate students.

## **Discussion**

The results of the online survey reveal that establishing a business directly after graduating is not an attractive option to many students, even though at both partner institutions the environment for establishing a business is evaluated positively. This is particularly true among German students. External factors, such as the very good employment situation, are likely to have an influence on this (Metzger 2017). An additional explanation is that the majority of young people in Europe (compared to the US) attend university in order to secure a safe workplace after graduating (Wilson 2008).

Apart from that, the results of the survey show that the students at OTH statistically significantly evaluate the academic entrepreneurship culture more positively with regards to the promotion of entrepreneurial thinking and behaviour, as well as show a statistically significantly higher leadership motivation than their fellow Czech students. However, in terms of the interest in entrepreneurship and entrepreneurial knowledge, no statistically significant differences could be found. Furthermore, the joint class observations and the analysis of modules reveals high diversity in the aspired qualification aims (Caha et al. 2017). Even though the entrepreneurship education mainly takes place in a lecturer-centred way, there also exist, especially at OTH, alternative student-centred instructional designs (e.g. corporate strategic planning simulation, project work, workshops) and supportive offers (e.g. awards for founders, start-up centres, academic entrepreneur's days). This explains the significantly better evaluation of the entrepreneurship education received by the German students. With regards to the effectiveness of the promotion of cross-domain competencies, it can be stated that the student-centred learning environments are clearly superior to the lecturer-centred ones. For example, the elaborative learning strategy, critical examination, or the ability to cooperate in frontal teaching cannot be imparted and cannot be tested on the basis of a single-choice examination. Various quality assurance measures (e.g. adapted quantitative and qualitative course evaluations) have proven their worth in terms of monitoring the achievement of objectives and the coordination of the teaching and examination methods used (competence orientation). There are already structured guidelines for coding and evaluating qualitative evaluation data e.g. Teaching Analysis Poll method (see Hawelka 2017). At this point, it should be noted critically that, for example, the measurable strengthening of the willingness to take risks, creativity and tolerance of ambiguity is only

possible in specific didactic settings and cannot be convincingly promoted in traditional learning environments. The already existing educational opportunities should be evaluated systematically on a long-term basis and on the basis of comparative criteria. It is only in this way that it is possible to validate which didactic approach has the biggest effect on which target variable. In summary, it should be noted that the results of the research presented in this article revealed the potential for further development in the teaching of entrepreneurship at both institutions of applied sciences.

## **Conclusion**

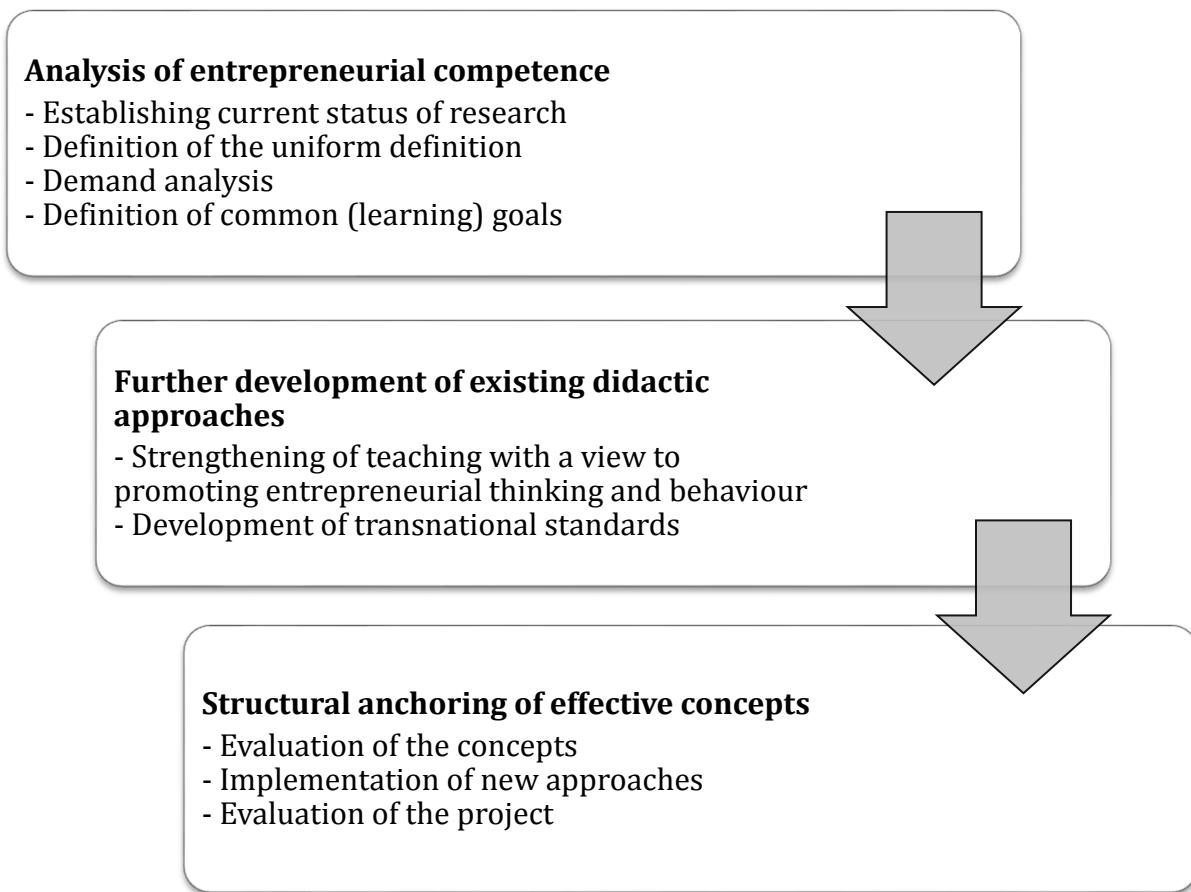
On the basis of the initial findings of the survey it is possible to draw important conclusions regarding the further development of the project and for institutional practice.

The online survey of students revealed important differences in study-related issues at both institutions, which emphasises the need for stronger cross-border cooperation. The development of common educational standards in the border regions can contribute to more intensive student exchange programmes and to an increase in the number of (future) entrepreneurs. In addition, the results reveal that the teaching of entrepreneurship at both institutions is mainly lecturer-centred, even though other instructional designs (e.g. case-based learning environments for the better identification of critical incidents in the post-foundation phase, Heinrichs 2016; Heinrichs and Jäcklin 2017) for the mediation of entrepreneurial thinking and behaviour would be more auspicious. As the acquisition of comprehensive decision-making can hardly occur through direct instruction (Mandl and Hense 2004; Renkl 2015), it is necessary to implement to a greater degree activating and problem-oriented methods of teaching and learning, preferably embedded in a real, authentic situation, within the Entrepreneurship Education Programmes.

One of the tasks of teaching entrepreneurship is to increase students' long-term interest in entrepreneurial independence. By broadening the range of teaching and support programmes for students and alumni, institutes can highlight the important role of entrepreneurship and innovation in society and thus promote the development of interest in setting up a business. Within this context, it would seem sensible to allow specialisation in entrepreneurship in later semesters not only for business administration students, but also for those of other subjects. In order to ensure that this specialisation offer is positively received by students, it is also necessary to support the development of interest in entrepreneurship through a broad range of higher education teaching opportunities. In addition, a wide range of events focusing on entrepreneurship, especially for students of STEM subjects and social sciences (e.g. reasons in the social environment, start-up workshops), can contribute to stabilising interest. The promotion of entrepreneurial thinking and behaviour should also continue to take place through various support programmes such as counselling, exchange of experience, guest lectures and specialist conferences.

The next project phase (Figure 3) involves the further development of existing approaches to strengthen entrepreneurial thinking and behaviour, taking into account the current status of research (Audretsch et al. 2016; Barnir et al. 2011; Brandstätter 2011; Brännback and Carsrud 2017; Heinrichs 2016; Heinrichs and Jäcklin 2017), the constructive alignment approach (Biggs and Tang 2011), the results of the study carried out, and examples of best practice.

Figure 3: Project phases and measures



Source: Authors

Case-based learning has great potential in terms of promoting entrepreneurial thinking and behaviour (Heinrichs 2016). Accordingly, lecturers are expected to ensure that knowledge is accumulated in the learning environment, but that the learning takes place on the basis of practical situations. The students should engage with complex, authentic tasks. It is advisable to use precisely defined problems as a starting point for the attainment of knowledge. The tasks used for this can be taken from everyday company situations (e.g. lack of support for the founder from the entrepreneur's family, conflicts between employees, Heinrichs 2016). Based on the design principles of problem-oriented learning and the constructive alignment approach, the corresponding pilot courses should be developed and implemented as part of the project.

Students' interest in entrepreneurship is often neglected both in research and in the development of measures to promote entrepreneurial skills and abilities. Various programmes and interventions are carried out (but not evaluated) to increase the entrepreneurial self-efficacy, creativity or team spirit of the students. However, students will not use their acquired competencies to start a business if they are not interested in this field. Based on the insights of interest research, in which interest is defined as a specific relationship between a person and an object (person-object theory of interest, Krapp and Prenzel 2011), it makes sense to offer numerous opportunities to engage with entrepreneurship at institutions of higher education. The students' interest in entrepreneurship can result only from direct engagement with this topic. The first points of contact can be created through various courses (e. g. seminars, guest lectures, workshops, holiday academies, competitions or business start-up days). As a result, the (initially) unsteady situational interest becomes a steady interest over time and under favourable conditions. Favourable conditions exist if there is a broad spectrum of offers for students and an understanding that entrepreneurial thinking and behaviour are worthwhile in society.

The developed teaching approaches should be implemented in the academic practice of both institutions within the framework of the project and subsequently tested for effectiveness and acceptance. The aim is to structurally anchor, evaluate and adapt the successful concepts on an ongoing basis. The final stage is the evaluation of the overall project.

The realisation of the project "Entrepreneurial Competencies in the Czech-Bavarian Labour Market" contributes to the internationalisation of teaching entrepreneurship, the development of common academic education standards in the border regions, as well as the promotion of entrepreneurial thinking and behaviour at the partner institutions. However, further action is needed to establish uniform standards for teaching other key competencies such as scientific and technical competence or intercultural competence. Within the framework of the cooperation, existing didactic teaching approaches for the promotion of key competencies can be compared and further developed. Against the backdrop of the constant change in the open European labour market and an increasingly networked world, higher education institutions are making a significant contribution to increasing the employability of their graduates through internationalised curricula.

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# **Body Image of Pupils of Older School Age in Relation to Leisure Time Activities and Healthy Lifestyle Choices**

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## **Abstract**

The paper focuses on the importance of body image as a criterion for preventing the abuse of habit-forming substances. Within this context, spending leisure time actively is considered to fit in with the general trend of following and maintaining a healthy lifestyle, which is an essential contributory factor to the health status of an individual. At present, the expectation is that the ability to maintain a healthy lifestyle and prevent lifestyle diseases will be seriously affected by the Internet and by other interventions. The study found that there is indeed a close correlation between body image and the hazardous behaviour of children and adolescents, in particular with regards to eating disorders, thereby confirming the results of many other studies. Children that practice organised sports were also found to have a greater physical and emotional self-concept. However, no evidence could be found for a link between body image and sports, although sports constitute organised leisure time activities. Nevertheless, the correlation between the dissatisfaction with one's body image and a healthy lifestyle definitely warrants greater interest to be shown in this topic.

**Key words:** body image, older school age, healthy lifestyle, leisure time activities.

## **Introduction**

How an individual spends their leisure time contributes to and is indicative of their quality of life. It is therefore important that citizens should be provided with access to a sufficient array of appropriate services and activities (Hawkins 1996). Spending leisure time actively is considered to fit in with the general trend of following and maintaining a healthy lifestyle, which is an essential contributory factor to the health status of an

individual. The promotion of healthy lifestyle activities, exercise and prevention programmes can be found in both public institutions, e.g. the Ministry of Health announced the start of a new programme called *Malignant tumours of the gastrointestinal tract: a healthy lifestyle challenge, screening and organising healthcare* (MH CR 2017), and private organisations, e.g. health insurance companies and their programmes for supporting the prevention of the adverse impact of risky lifestyle choices on the health of their clients. It is against this background that this article focuses on the correlation between lifestyle choices, the level of leisure time activity, the consumption of illegal habit-forming substances and the psychological concept of one's body image, i.e. the attitude to one's physical appearance. Due to the risky behaviours linked to these particular issues and the fact that adolescents are considered to be one of the most at risk groups, the research that forms the basis of the analysis was therefore conducted among populations of sixth- and ninth-graders in secondary schools (in České Budějovice). Based on the results, an explanation is given of the adolescents' present level of (dis)satisfaction with their body image and the correlation with behaviours that support a healthy lifestyle.

### **Healthy life style**

A healthy lifestyle involves eating healthy food, regular exercise and maintaining a healthy weight, as well as avoiding smoking and consuming excessive levels of alcohol. Adhering to these principles can lead to a significant decrease in the risk of so-called lifestyle diseases (Chiuve et al. 2006). At present, the expectation is that the ability to maintain a healthy lifestyle and prevent lifestyle diseases will be seriously affected by the Internet and by other interventions. According to Brouwer (2011), this will particularly affect the younger population. However, the adoption of a healthier lifestyle that involves increased exercise, non-smoking and a healthier diet may influence an individual's life expectancy (Ford, Spallek and Dobson 2008).

It can be stated that the attitude towards health and the prevention of lifestyle diseases is at a very good level today. However, living in a so-called culture of health, whereby health constitutes a part of our morals and is equivalent to a preventive health check, contrasts starkly with the fact that people are being overwhelmed with information on what they should and shouldn't do, whereby such suggestions often change. Despite this, almost all people have the goal "to be healthy" and there is an extensive general awareness of what a healthy lifestyle means and is (Parusnikova 2000).

### **Active leisure time**

The main motivation behind individuals spending leisure time actively is the need to improve or maintain their health and fitness.

The positive effects of doing sport include weight loss, improved cardiovascular fitness and patency, decreased feelings of anxiety and depression, an improved relationship with oneself, better muscle balance and body posture (Blahutková 2005).

In 2014, the Ministry of Education, Youth and Sports (MEYS) set aside CZK 15 million to support leisure time activities for children and youth. The support was directed towards non-profit organisations providing leisure time activities (MEYS 2014). The activities included not only sports and exercise, but also activities that supported social integration.

In 2017, the MEYS announced the start of a new programme called *Building capacities for the development of schools II*. The ministry has put aside CZK 266 million for applicants, e.g. schools, leisure facilities and other institutions, to draw from. The aim of the submitted projects must be to connect leisure time activities with school education (MEYS 2018).

### **Self-concept**

The term self-concept is a general term used to refer to how someone thinks about, evaluates or perceives themselves. Generally speaking, self-concept embodies the answer to the question "Who am I?" (Myers 2009). Baumeister (1999) provides the following definition of self-concept: "The individual's belief about himself or herself, including the person's attributes and who and what that self is". This includes elements such as academic performance, gender identity, sexual identity, and racial identity. (Bong and Clark 1999; Byrne and Gavin 1996). Worldviews about self in relation to others differs across and within cultures. Western cultures place particular importance on independence and the expression of one's own attributes (Markus and Kitayama 1991). In Asian cultures, interpersonal relationships are more important than one's individual accomplishments, and individuals experience a sense of oneness with the group (Swan et al. 2012). Gender differences of self-concept are described as well. Cross and Madson (1997) suggest that men tend to be more independent, while women tend to be more interdependent. However, a study conducted in 1999 showed that men and women do not differ in terms of independence or interdependence, but that they differ in terms of the types of interdependence. Women utilise relational interdependence, while men utilise collective interdependence (Gabriel and Gardner 1999). One's self-concept is a collection of beliefs about oneself (Leflot, Onghena and Colpin 2010). One's self-image is one of the most important components of self-concept.

### **Body image**

Body image includes an individual's concepts of their own body (Štajnochrová 2009). The perception of the physical component of one's self is one of the most important components of self-concept, which plays an essential role in the development process of self-respect. The ability to manage and improve one's corporality and the perception of that ability is the foundation of healthy personality development from childhood onwards (Bandura 1997). This implies that first impressions are usually determined by physical appearance and that this is used as a reference point for identifying oneself in the present. "Maturity, stature, appearance and physical fitness rank among the most public attributes and are used as reference points for our identity more and more frequently" (Tomešová 2003, p. 4).

People perceive their own bodies and the image thereof in different ways:

- cognitively - by discovering shapes, sizes, composition, proportions;
- emotionally - by assessing appearance, competences, performance, functionality, fitness; and with respect to
- actions: lifestyle choices, eating and exercise habits, control of physical fitness

(Fialová and Krch 2012).

Like self-concept, the perception of one's own body is influenced by a number of factors. Girls aged 11-15 years have a significantly worse perception of their own body than boys (Inchley, Kirby and Currie 2011). However, this differs from the results described by Bandayan, et al. (2012) who did not register any significant differences between the life satisfaction of girls and boys. The study by Fenton, Brooks and Spencer (2010) revealed that positive body image is connected with the perception of good social status of the family and with life in a two-parent family. The positive perception of one's own body also correlates positively with sports club membership (Inchley, Kirby and Currie 2011), less time spent in front of the TV and being a non-smoker (Schneider et al. 2013).

The life satisfaction of children of older school age is primarily connected with a functional family environment and communication (Levin, Dallago and Currie, 2012) and with the school environment (Mareš 2010). Bonds between friends also have a role play (O'Dea and Abraham 1999).

## **Methods**

The data presented in this paper are a sub-set of data drawn from an extensive piece of quantitative research conducted in 2017 on the lifestyle and hazardous behaviour of children of older school age. In total, 1113 sixth (N=639) and ninth grade (N= 474) pupils, both male and female, participated in a questionnaire survey. The questionnaire survey, which included a combination of open-ended and closed-ended questions, was distributed in schools during lessons, and only with the consent of the schools' headmaster and parents. This helped to achieve a 100% return rate. The research was conducted in 14 schools across the Region of South Bohemia (Czech Republic). The survey was constructed on the basis of the demands of the administrative bodies that are responsible for officially overseeing the schools and focused on the different aspects of the pupils' lifestyle, in particular on the hazardous aspects thereof. However, this article deals with the students' view of their own bodies, the way they spend their free time and their physical activity. The statistical data collated from the results of the questionnaire survey were subsequently processed in the SPSS programme. The descriptive statistics and the results of the statistical tests with regards to the relationships between the selected variables are presented below.

## Results

Of the 1113 pupils that participated in the survey, 75.5% were satisfied with their body, with the remaining 24.5% being dissatisfied (see Table 1).

Table 1: Are you satisfied with your body?

		Frequency	Percentage
Valid	Yes	840	75.5%
	No	273	24.5%
	Total	1113	100.0%

Source: Authors

No statistically significant relationships were found between the pupils being either sixth- or ninth-graders (Chi-square;  $p=0.75$ ) or between genders (Chi-square;  $p=0.77$ ). Satisfaction with their body was also neither related to whether the pupils go in for sports (Chi-square;  $p=0.69$ ) nor with their general satisfaction with life (Chi-square;  $p=0.29$ ).

In contrast, statistically significant relationships were found with respect to body satisfaction and the pupils' own opinion on how healthy their lifestyle is (Chi-square;  $p<0.01$ ) (see Table 2) and to their level of satisfaction with their leisure time activities (Chi-square;  $p<0.01$ ) (see Table 3). A statistically significant relationship was also found between body satisfaction and membership of hobby clubs (Chi-square;  $p<0.01$ ) (see Table 4).

Table 2: Leisure time activities x body satisfaction

		Are you satisfied with your body?		<b>Total</b>	
		<b>Yes</b>	<b>No</b>		
Are you satisfied with your leisure time activities?	Yes	550	120	670	
		82.1%	17.9%	100.0%	
	Rather yes	236	118	354	
		66.7%	33.3%	100.0%	
	Rather no	39	27	66	
		59.1%	40.9%	100.0%	
	No	15	8	23	
		65.2%	34.8%	100.0%	
Total		840	273	1113	
		75.5%	24.5%	100.0%	

Source: Authors

Table 3: Healthy lifestyle x body satisfaction

		Are you satisfied with your body?		<b>Total</b>	
		<b>Yes</b>	<b>No</b>		
Do you think you have a healthy lifestyle?	Yes	202	40	242	
		83.5%	16.5%	100.0%	
	Rather yes	451	137	588	
		76.7%	23.3%	100.0%	
	Rather no	155	82	237	
		65.4%	34.6%	100.0%	
	No	32	14	46	
		69.6%	30.4%	100.0%	
Total		840	273	1113	
		75.5%	24.5%	100.0%	

Source: Authors

Table 4: Membership of hobby club x body satisfaction

		Are you satisfied with your body?		<b>Total</b>	
		<b>Yes</b>	<b>No</b>		
Do you go to a hobby club?	Yes	367	140	507	
		72.4%	27.6%	100.0%	
	No	473	133	606	
		78.1%	21.9%	100.0%	
Total		840	273	1113	
		75.5%	24.5%	100.0%	

Source: Authors

Body satisfaction can also be influenced by other social pathological behaviours like alcohol and energy drink consumption, and smoking. For all three, the relationship proved to be statistically insignificant: alcohol consumption (Chi-square,  $p=0.74$ ); experience with cigarettes (Chi-square,  $p= 0.29$ ); consumption of energy drinks (Chi-square,  $p= 0.5$ ). In contrast, there is a statistically significant relationship between body satisfaction and experience with drugs (Chi-square,  $p<0.05$ ) (see Table 5).

Table 5: Experience with drugs x body satisfaction

		Are you satisfied with your body?		<b>Total</b>	
		<b>Yes</b>	<b>No</b>		
Have you ever tried any drugs?	No	785	264	1049	
		74.8%	25.2%	100.0%	
	Yes	55	9	64	
		85.9%	14.1%	100.0%	
Total		840	273	1113	
		75.5%	24.5%	100.0%	

Source: Authors

## **Discussion**

Different studies in the field of body image have produced different results, including those related to fundamental socio-demographic characteristics. While our study did not demonstrate any significant connection between the age difference of the children and their body image, O'Dea and Abraham (1999) point out that older (pubescent) children have significantly worse body image than pre-pubescent children. They also found that girls in both groups had worse body image than boys, which was not the case in this study.

The results of most research studies confirm that the view of one's body is determined by one's gender (Grogan 2016). However, the concept of the ideal body is very different for males and females. While girls and women tend to wish they were slimmer, male respondents usually want more muscles (Gillen 2015). Furnham, Badhim and Snaede (2002) state that only girls associate body dissatisfaction with the concept of self-esteem. Male self-esteem is not affected by body dissatisfaction. The specific reasons for exercising were found to correlate with low self-esteem and eating disorders, regardless of gender.

In our study, pupils without organised leisure time activities were dissatisfied with their bodies. This is similar to the results presented by Santiago et al. (2017). The children most satisfied with their body image had a greater academic and physical self-concept. The children that practised organised sports had a greater physical and emotional self-concept. The children most dissatisfied with their body image and who practised organised sports had a lower self-concept of family. However, the study did not find any evidence for a link between body image and sports, even though sports constitutes an organised leisure time activity. Unfortunately, comparable studies that focus on the relationship between body image and habit-forming substances are not available for this target group. However, the results do provide data about the relationship between dissatisfaction with own body image and unhealthy lifestyle choices. This data can be important to both governmental and non-governmental organisations that are responsible for public health and can serve as a stimulus to integrate the concept of body image in promotional and marketing events aimed at popularising healthy lifestyle choices. The fact that the adolescents who are dissatisfied with their body image tend to also be dissatisfied with how they spend their leisure time, provides a relevant focal point for campaigns aimed at the target group in question.

## Conclusion

Many studies have confirmed that there is a close correlation between body image and the hazardous behaviour of children and adolescents, in particular in relation to eating disorders. This study showed that body image is an important criterion for preventing the abuse of habit-forming substances. Furthermore, the link between dissatisfaction with own body image and healthy lifestyle choices warrants extended research into the topic. The suggestion is therefore to include this concept more intensively in future studies and events focused on the support of a healthy lifestyle.

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# **Integrated Management Systems as a Tool for Achieving Continuous Improvements in Performance**

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## **Abstract**

The paper presents an analysis of the factors that affect the performance, efficacy and efficiency of the implementation of integrated management systems in an organisation, as well as identifies the potential problems that might occur during this process. For an organisation to operate successfully and effectively it is essential to regulate and manage it in a systematic and transparent way. The continuous improvement of an organisation's activities and processes also involves the introduction and maintenance of management systems that are designed to permanently raise an organisation's performance, whilst addressing the needs of all stakeholders. The purpose of the continual improvement of integrated management systems in an organisation is to increase the likelihood that customer and stakeholder satisfaction is achieved.

**Keywords:** quality, management systems, performance, improvement, efficiency, environmental management system, organisation.

## **Introduction**

Strategic decision-making by businesses operating under competitive conditions requires knowledge of markets, a quality orientation and innovation. Most product innovations are accompanied by quality improvements and additional features. Entrepreneurial innovation culture involves risk-taking, a tolerance of failure, decision-making in ambiguous conditions, uncertainty, a lack of information, the search for opportunities, flexibility, and the creation of an atmosphere that stimulates and supports innovation

(Knošková 2015). The introduction of innovative business activities leads to an increase in the key factors affecting a business' economic performance (Kubíčková et al. 2016).

Improvements in quality can be achieved by improving processes, in particular in terms of efficiency and performance. Many organisations have implemented quality management systems because quality has become one of the basic requirements of competitiveness (Muzaimi and Chew 2015). Quality management systems are able to generate very interesting and long-lasting effects and bring many benefits to all stakeholders. Organisations that have established management systems are better able to meet customer's needs, avoid mistakes, and motivate and engage employees in increasing the efficiency of internal processes, whereby quality becomes the focus of their business (Albulescu et al. 2016).

Established management systems positively affect an organisation's image and, in addition to all the practical benefits of implementing them, are generally accepted by the market as a guarantee of organisational control over their processes. All management systems share several general characteristics:

- process management of an organisation that requires the development and implementation of a specific system that is the subject of audits within the compliance collation of its individual components with the requirements of the management system,
- the ability to apply them to any organisation, regardless of its size, type, or business area,
- the voluntary nature of their implementation, even though it is easier to identify and overcome various legislative regulations through management systems (Iatridis et al. 2016).

European quality policy supports trends and tools that lead to product and production quality improvements and the meeting of customer needs through increased efficiency, productivity and the continuous enhancement of all organisational activities. Many empirical studies confirm the relationship between an organisation's focus on quality and its economic outcomes.

An example of such research is that which was recently conducted in Bulgaria, and which highlights the importance of quality as a factor that affects a company's competitiveness and product quality (Georgiev and Georgiev 2017).

Another study conducted with the participation of 72 organisations in Spain deals with the identification of the factors that affect the performance of an organisation in the implementation of comprehensive quality management (Jaca 2015).

There is great interest in the implementation of the ISO 9001 quality management system. Relevant research on this subject has been extensive and is mostly focused on the economic impact this (potentially) has in manufacturing industries. In contrast, there has been very little interest in similar research on the impact in other areas, such as social services. According to one of the few pieces of research conducted into the

implementation of the ISO 9001 quality management system in social services, it can be very successful if it is adapted to the specific requirements of their clients (Melao 2015).

The introduction of management systems allows an organisation to implement a structured approach to their business in order to achieve predetermined goals. The potential relationship between the certification of a quality management system through ISO 9001:2008 and the risk of failure of Italian companies was examined on a sample of 63,400 companies from across different industries. A significant positive relationship could not always be confirmed (Galetto et al. 2017).

In many countries, the environmental behaviour of companies is strongly supported by government and society. Within this context, Polish organisations were motivated by societal demand and state support to implement environmental protection systems. A survey conducted into the impact of the implementation of such environmental management systems revealed that it produced a positive signal for an organisation's customers and enhanced an organisation's performance (Matuszak - Flejszman 2011).

The implementation and integration of management systems within organisations provides them with the opportunity to demonstrate their obligations towards improving quality, preserving the environment and protecting the health and safety of their employees, thereby gaining a significant competitive advantage in the market. The integration of management systems also contributes to the identification and by the fact that the organization integrates more management systems, it is possible to minimize the risks that affect key aspects of a business with regards to the organisation and its stakeholders (Rebelo et al. 2017).

Although many surveys have been conducted into the economic impact of the integration of (different) management systems, they reveal very little about the actual situation on the ground. As management systems are robust and complex processes, their impact has the same character. Unfortunately, because the majority of the research is based on empirical data collated by individual researchers, only a small number of existing surveys can be compared with each other. In a similar vein, the authors of this article were confronted with the same problem when creating their research task in that they were unable to adapt other work to increase the efficiency of their own findings.

## **Materials and Methods**

The method of analysis was applied to the problem. This required the division and subsequent examination in detail of individual theoretical approaches, as sourced from articles in domestic and foreign journals. The next step was to compare these approaches and evaluate the overall issues relating to the selected management systems.

The aim of the paper is to highlight the factors that affect the performance, efficacy and efficiency of the implementation of (integrated) management systems. The selected method to achieve this was quantitative research on the basis of a questionnaire survey.

The questionnaire survey was conducted among 583 organisations. These organisations belong to a database prepared for scientific research project VEGA No. 1/0670/16 - Evaluation of integrated management systems in the context of improving the competitiveness of business entities in the Slovak Republic. In Slovakia there are approximately 580,000 business entities, of which an estimated 370,000 are sole traders (i.e. self-employed). On the basis of an assumed incidence rate of 50%, significance level of 0.05 and a confidence level of 95%, the recommended size of the sample set is 384. Although stratified sampling from the database was not undertaken, the sample set was representative and included organisations of various sizes and from across many business sectors.

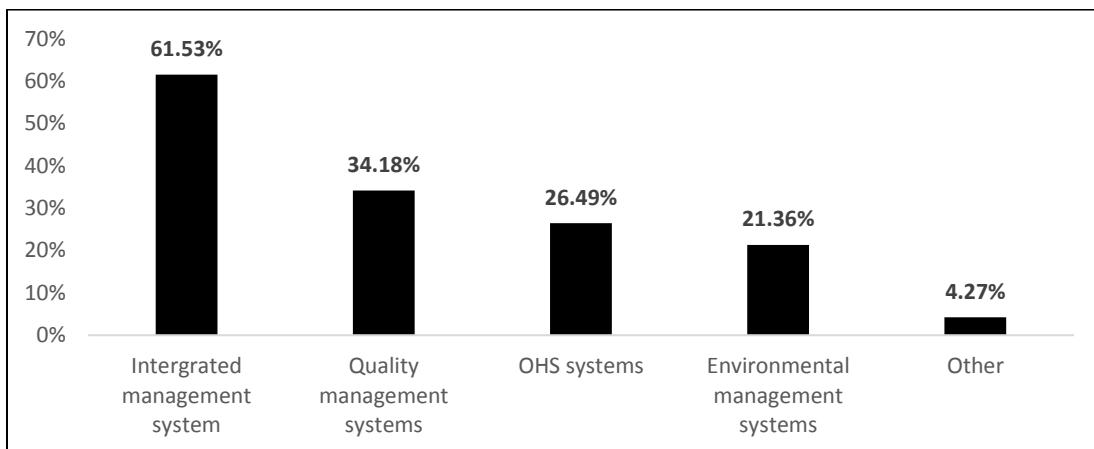
In total, 248 organisations participated in the survey, which represents a return rate of 42.54%. Of these respondents, 131 organisations declared that they were not certified and 117 declared they had some form of management system certification. For the purpose of this paper, the analysis will focus only on those respondents who already have experience with integrated management systems. By doing so, we fulfil the goal of determining the factors that affect company outputs due to the implementation of integrated management systems. The sample set therefore consisted of 117 organisations from different sectors and of varying sizes: micro-companies and self-employed (2 resp. 1.71%); small companies (49 resp. 51.88%); medium-sized companies (58 resp. 49.57%); and large companies (8 resp. 6.84%). The organisations in the sample set were predominantly from the manufacturing sector (82 resp. 70.09%), followed by those from the non-manufacturing sector (20 or 17.09%) and other economic sectors (15 or 12.82%).

In the questionnaire, company managers could pick from a list of management systems and certification schemes. The list included quality management systems, environmental management systems, occupational safety and health systems, and others. The organisations were asked to identify whether they use these systems individually, combined, or as part of an integrated management system that consists of all three, or if they use alternative management systems in their organisation.

Figure 1 shows that the ISO 9001:2015 standard for quality management systems is used by 34.18% (40) of the respondents in the sample set, that the ISO 14001:2015 standard for environmental management systems is used by 21.36% (25) of the respondents in the sample set, that 26.49% (31) of the respondents in the sample set operate under the OHSAS 18001: 2009 standard for OSH systems, and that 4.27% (5) of the respondents in the sample set implemented other management systems.

In total, 72 respondents (61.53%) in the sample set declared that they had an integrated management system in place and therefore had some experience with management systems. It is this category of organisation, i.e. with experience of implementing more than one management system that forms the basis for the analysis that follows.

Figure 1: Used management systems



Source: Authors

Even though the topic of this research is relatively robust and allows for different approaches to be applied, a lack of funds and capacity are the reasons why a questionnaire survey was used for the data collection. In order to further cut costs, the questionnaire was prepared electronically with the use of Google Docs software and was subsequently distributed electronically to those Slovak businesses in the database. Although the questionnaire was addressed to responsible people within the companies (mainly responsible for quality and/or head of the organisation), it is difficult to identify which position the person who responded held.

The method of analysis was used for the processing of the data obtained through the questionnaire survey. During the processing of the results, the synthesis method was also used to synthesize individual answers and to formulate general conclusions, as represented by the relative frequencies (in percentages) with which organisations selected options. For the identification of the principal relationship between integrated management systems and economic performance, only basic mathematical-statistical methods were applied. Deeper statistical analysis would be required to determine a more explicit relationship.

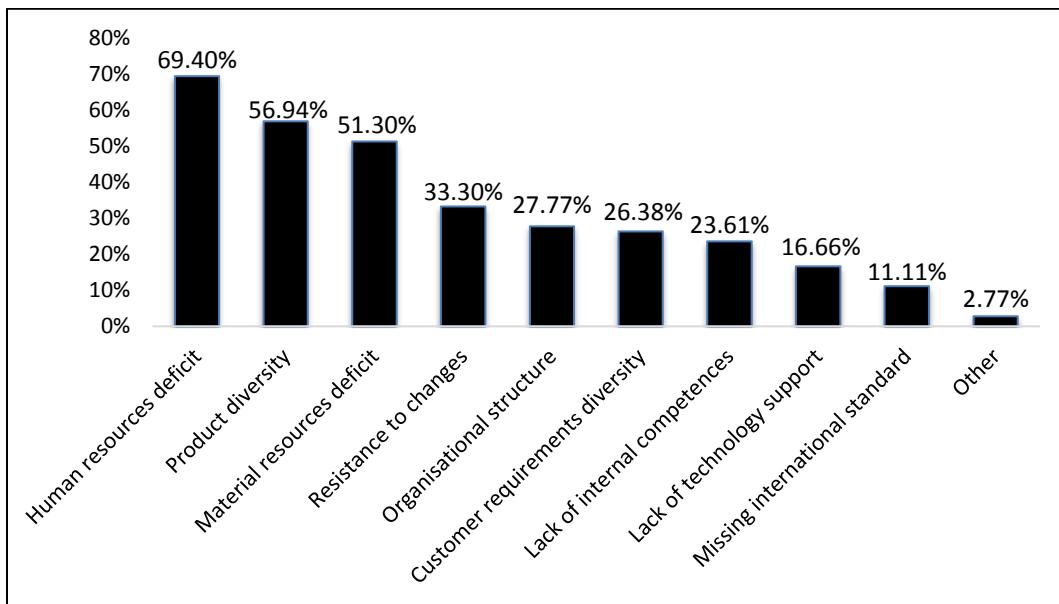
## Results

As unfortunately, in those companies with no experience of building management systems, the perception of the impacts and benefits of integrated management systems can be influenced by subjective descriptions of company environments and perceptions set through mediated information.

The first question with regards to the impact of integrated management systems is whether integration is considered important in the first place. It came as no surprise that the overwhelming majority of respondents (67 resp. 93.09%) indicated that integration is very important. This reflects the expectations of company managements that integrated management systems deliver organisational and process improvements.

In general, organisations encounter several issues while implementing an integrated management system. These problems can be divided into *external* and *internal*. The *external* problems include a lack of tools with which to audit and evaluate the integrated management system, different perceptions of existing standards, and missing standards. The *internal* problems include pressure from the external environment, inadequate interconnection of the management systems with the “core” activities of an organisation, stakeholders groups (e.g. quality requirement vs. environmental or safety protection), efforts to meet the requirements of certification or advisory bodies, and corporate culture (implementation should start with a change in organisational management behavior).

Figure 2: Main barriers to the implementation of management systems



Source: Authors

As is evident in Figure 2, the main problem with the implementation of management systems in organisations is a human resources deficit (50 respondents, resp. 69.44%), which is closely connected with another human resources issue, namely resistance to change (identified by 33.30% of respondents).

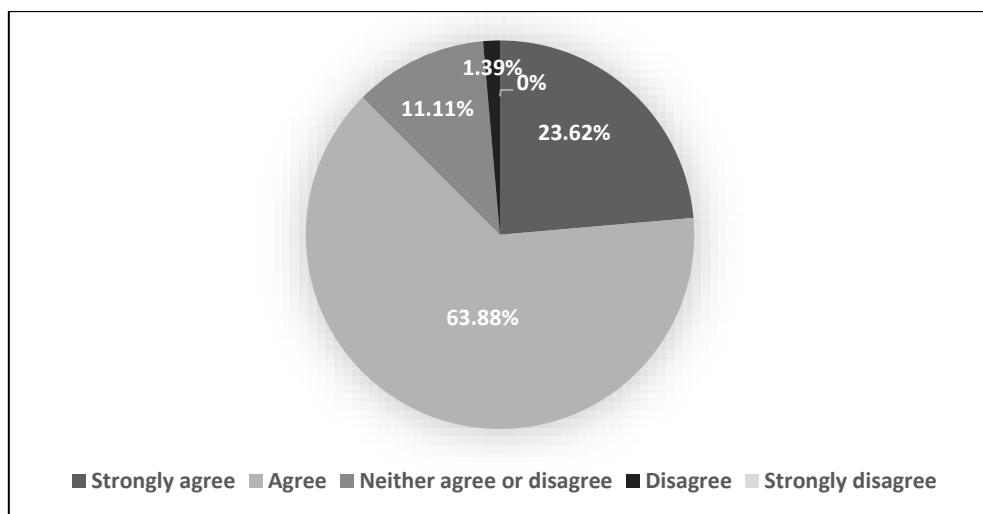
The second largest barrier is formed by process related issues, i.e. product diversity (identified by 41 respondents, resp. 56.94%) and a shortage of material resources (identified by 37 respondents, resp. 51.38%).

In contrast, technical barriers and a lack of knowledge and guidance about the process of integration only play minor roles. A lack of technological support was identified by 12 respondents (16.66%) and missing international standards with regards to the integration of management systems by 8 respondents (11.11%).

We also asked those companies who have successfully integrated management systems about the impact thereof on organisational efficiency. The respondents were asked whether they agreed with the statement that their “integrated management system has

improved organisational efficiency". The results show that the majority of companies agreed that the impact had been positive. Of the in total 72 respondents in the sample set, 17 respondents strongly agreed (23.62%), 46 respondents agreed (63.88%), 1 respondent disagreed, leaving 8 respondents (11.11%) who were unable to judge (see Figure 3).

Figure 3: Integrated management system and improved organisational efficiency

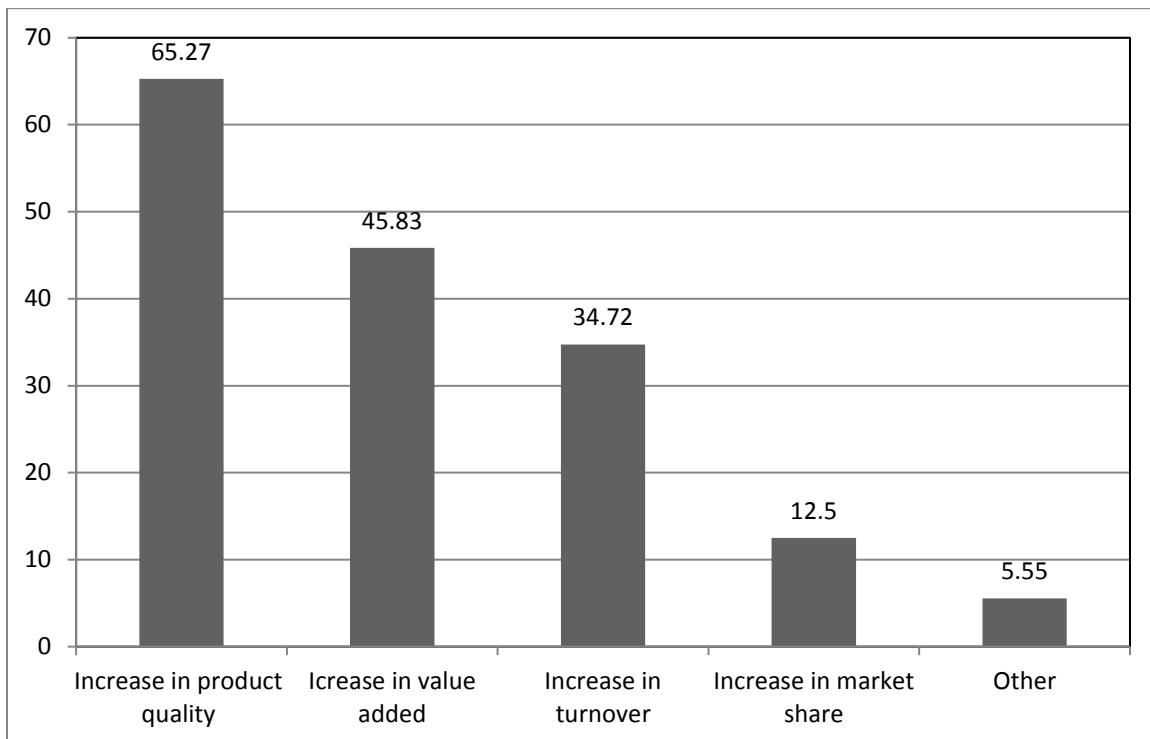


Source: Authors

Organisations, considering their priorities, may decide to only implement some of the systems, such as a quality management system, environmental management system, or OSH system, individually and then to integrate them into a single management system at a later date, or alternatively to immediately implement an integrated management system as a whole in the interests of improving performance and the efficacy of processes management within the organisation (Trierweiller 2016).

Increased efficiency can be achieved through different processes within an organisation. To this end the respondents were asked which aspects of their business activities were influenced the most by their integrated management system. Although more answers were possible, the differences among the different answers were relatively high. The biggest impact on company performance as a result of increased efficiency achieved through an integrated management system, as identified by the respondents, was an increase in product quality (47 respondents, resp. 65.27%). The second largest impact was on turnover (33 respondents, resp. 45.83%), with just over a third of respondents (25 respondents, resp. 34.74%) identifying an increase in value added. Four respondents (marked as Other) specified that their integrated management system alone had no impact on efficiency improvements or on company image (Figure 4).

Figure 4: Impact of integrated management system on company performance



Source: Authors

If the answers to the questions are combined, it is possible to conclude that the goal of implementing integrated management systems is to increase customer satisfaction through the efficient application of these systems. This means continuous improvement of an organisation's processes and performance, while adapting to customer and market requirements. Within this context, external efficiency benefits (product quality, value added) play a bigger role than internal efficiency improvements (market share, turnover).

## Discussion

Establishing management systems can be a tool for continuous improvement in organisational performance, whilst establishing an integrated management system can be a tool with which to differentiate an organisation from its competitors through increased customer satisfaction. There is a plurality of views and approaches to creating and implementing management systems and it is difficult to find a universally established and proven unified approach for all sectors of the economy. Currently, management systems need to be adjusted to the specifics of individual organisations operating in different sectors of the economy.

The survey revealed that the implementation of quality management systems is the most popular approach. At the same time, other management systems under existing certification schemes are growing in popularity and being adopted by a wider range of companies. The analysis of the sample set showed that the integration of different systems is a high priority for companies and that companies tend towards the creation of integrated management systems rather than the replacement of old management systems

or the construction of new ones. This is likely to be the reason why more than 60% of the organisations with a certified management system have a functioning integrated management system. The perception of the importance of management system integration supports this statement as well.

As many experts have concluded on the basis of empirical research, the biggest barriers to the implementation of management systems lie in the field of human resources and resistance to change (as identified by one-third of the respondents). This was also confirmed by the results of the study that is presented in this article. These barriers can be removed by providing support for human resources and removing obstacles to change, which requires a change in organisational culture and philosophy.

Additional data analysis shows that the perceived power of customers has the biggest impact on the construction and implementation of integrated management systems. The results of our survey support this finding. The external benefits influencing the relationship with customers seems to be based on the perceived efficiency improvements that can be achieved through management system integration. This is subsequently reflected in improvements in product quality and value added, which are to the benefit of customers. However, market share or turnover have a greater impact on the financial health of companies, but are less influenced by system integration.

## **Conclusion**

The importance of implementing integrated management systems is growing globally. Increasing global competition supports the need for companies to differentiate themselves from their competitors. Proof of quality within different aspects of a company's activities is still considered to be an efficient differentiation tool, one which has equally positive effects on the sustainability of company processes.

The increasing number of management systems for different company processes and activities creates demand for them to be integrated in order to maintain the economic benefits thereof. Although the drive for internal efficiency seems to be the main reason for integration, our survey revealed that company environment and especially customers have a greater influence on the decision whether to implement integrated management systems.

Interest in management systems and their integration into a single integrated management system has a positive impact on the availability of integration solutions. Although technical issues are perceived by many companies to be an obstacle to integration, the experience of companies that already have certified integrated management systems in place shows the opposite.

Many more problems and barriers are connected with human resources and the workforce than with the technical content and guides for the integration of management systems. Corporate culture plays an important role in the success of the implementation of integrated management systems as tools for achieving continuous improvements in an

organisation's performance. To achieve this success, it is necessary to create the appropriate conditions to motivate and support teamwork and communication.

## Acknowledgement

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# **Internal Conflict Resolution between Employees: Methods Applied in Companies in the Czech Republic**

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## **Abstract**

Project management is an integral part of the life of companies. It helps them to manage projects of different sizes, scopes and financial value irrespective of whether it concerns new products, services, the implementation of new company IT systems, internal processes, etc. Regardless of the project circumstances, there is always a project team, with members drawn from various backgrounds—professional experience, seniority, work ethic, age, and usually gender. However, differences among team members can cause friction.

An important factor for success is good, healthy communication, which may include conflicts. Within this context, the project manager, among others, should be a very good conflict solver, or even a trained mediator who can lead constructive conversations. These conversations should enable team members to express their different opinions with the aim of achieving the best possible result, i.e. the prevention of unnecessary conflicts, the minimisation of bad ones, and the reduction of time lost to them.

The research presented in this paper shows that managers spend up to 30% of their time managing conflicts, in other words, not doing their job, as is the case for the employees involved in a conflict. As a result, companies suffer from lower productivity and spend money on conflict management activities that in many cases are avoidable.

**Keywords:** conflict resolution; mediation; workplace conflict; conflict management; project management.

## **Introduction**

As we live in the real world, not an ideal one, it is only natural that during every project there is conflict. Whilst in the majority of cases conflict cannot be avoided, it can be managed if identified in time. Yusuf and Pretorius (2017) point out that swift action is necessary if conflict arises, otherwise the situation may lead to a deeper conflict and

jeopardise many project activities, which is something every project manager, organisation and stakeholder wants to avoid.

According to Kurtzberg and Mueller (2005), the nature of conflicts is either related to processes, tasks or relationships. Under process-based conflicts, it is critical that the aim of the project is well explained to team members. Ni et al. (2018) suggest this improves work efficiency and reduces failure risks. In their study, Kurtzberg and Mueller (2005) came to the conclusion that team members are particularly frustrated when it is not clear how they can accomplish their work and who bears responsibility for certain tasks. This lack of clarity may slow down the project, or bring it to a halt all together.

Under task-based conflicts, Ni et al. (2018) point out that it is helpful if responsibilities are evenly distributed among team members. Tasks should be clear and team members should be allowed and welcomed to come up with new ideas and discuss them. However, when their opinions are not aligned, it is very difficult for individuals to remain objective when they feel that others disagree with or even disapprove of their point of view (Jehn 1997). Kurtzberg and Mueller (2005) proved that task-based conflicts are the only conflicts that are partially beneficial in that they can help resolve problems as well as generate new perspectives.

Artamonova (2014) suggests that good work results are dependent on a good relationship between workers and managers. Relationship-based conflicts are seen as unpleasant and a distraction from work (Kurtzberg and Mueller, 2005). Li et al. (2018) suggest that they lead to counterproductive work behaviours such as a negative trend in task performance.

Regardless of the basis on which a conflict arises, it needs to be addressed and dealt with. Gagarinskaya et al. (2013) believe organisations should have comprehensive conflict management programmes for both managers and employees. Bendersky (p. 204, 2007) points out: "Three types of dispute resolution components are most commonly introduced or expanded when organisational leaders decide to formalise their conflict management practices: rights-based processes, interest-based neutrals, and negotiation or conflict management training."

## **Materials and Methods**

The research focused on how employees in Czech companies deal with conflict – what are the most frequent reasons for conflicts starting, what methods do they use to resolve them, to what extent is mediation used in companies, and how much time managers spend on conflict resolution.

Hypothesis 1: The most frequent reason for internal conflict between employees is work related.

Hypothesis 2: Traditional conflict resolution techniques (peer-to-peer solutions, internal third party involvement) are used more than modern professional mediation techniques.

Hypothesis 3: Managers spend 20% of their work time resolving conflicts.

The research was conducted anonymously among 350 members of a professional group called HR News on the social network LinkedIn between April and July 2017. The selected members, both men and women from all regions of the Czech Republic, working in HRM and top management positions in privately owned companies (both Czech and subsidiaries of multinationals) employing more than 50 employees, were contacted individually by email and asked to fill in an online questionnaire.

The first part of the questionnaire focused on types of internal conflicts between individuals. Respondents were presented with a choice of internal conflicts they may have experienced relating to work, personal/personality issues, hierarchical (superior versus subordinate) problems, nationality and/or culture, age gap and gender.

The second part of the questionnaire focused on the internal solutions that are used in Czech companies. Once again, respondents were presented with a range of choices. These included parties resolving conflicts themselves, or the involvement of a third party (HR department or senior management), company ombudsman, employee council, facilitation, mentoring, coaching or mediation.

The third part of the questionnaire focused on the collection of data with regards to how much time managers spend on conflict resolution. They could choose from one of five options: 0% - 10%, 11% - 20%, 21% - 30%, 31% - 40%, 41% - 50%.

In total, 180 responses were received, of which 60% were from female managers, and 40% from male managers. In addition, 30 respondents (15 male and 15 female managers) were interviewed.

## Results

**Hypothesis 1: The most frequent reason for internal conflict between employees is work related. This hypothesis was confirmed.**

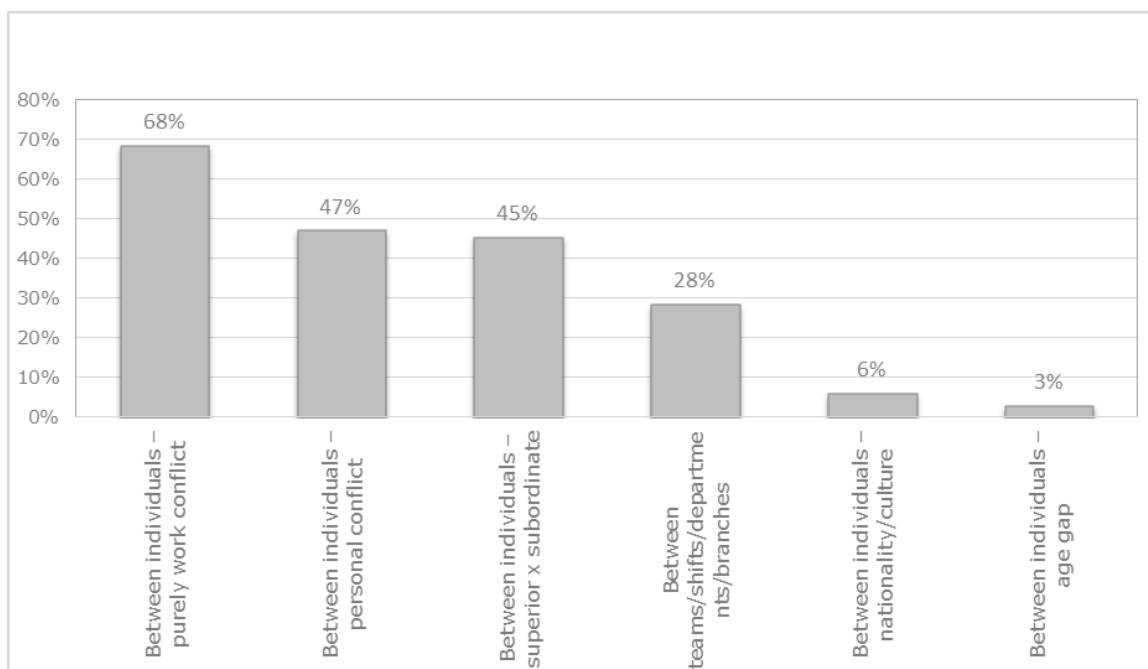
The results show that the top six most frequent reasons for internal conflict(s) in companies are, in order of rank:

- 1) Work issues- when colleagues do not agree on an approach to an issue, be it the solution itself, the execution thereof, or the resources (too much or too little time, too many or too few people, too little or too much money) required. Examples given during interviews ranged from complex strategic decisions about the future of the company to simple decisions such as the layout of work desks in a new office.
- 2) Personal/personality issues – these problems often go hand-in-hand with work related conflicts as a result of colleagues simply not liking each other as human beings, a problem that can persist for just a day, or over the long term. Examples of reasons for disliking someone included: different level of work or life

experience; different level of empathy; (un)willingness to cooperate; age gap; political opinions.

- 3) Superior – subordinate issues – although the basis of the conflict is very similar to that of work related conflicts, it has other aspects to it. This concerns hierarchical power. Conflicts arise when employees do not view their bosses as being fully competent, supportive, or experts in their field, or when they fail to share information or give necessary feedback. On the other hand, managers may not feel that employees are up to the task, unable to deliver the expected quality, lack innovation and cannot meet deadlines.
- 4) Team issues – between project teams, departments, branches and/or shifts. This concerns a combination of work related conflicts and personal/personality issues.
- 5) Cultural/nationality issues – these types of conflicts occur because the Czech Republic lacks a large enough local workforce. As a result, employers are being forced to employ foreign nationals, sometimes from very culturally different countries such as Vietnam or Mongolia.
- 6) Age gap issues – this primarily relates to differences in work ethic between millennials and older generations. Millennials emphasise the importance of work-life balance and excel in innovation.

Figure 1: Issues that form the basis of conflicts in companies



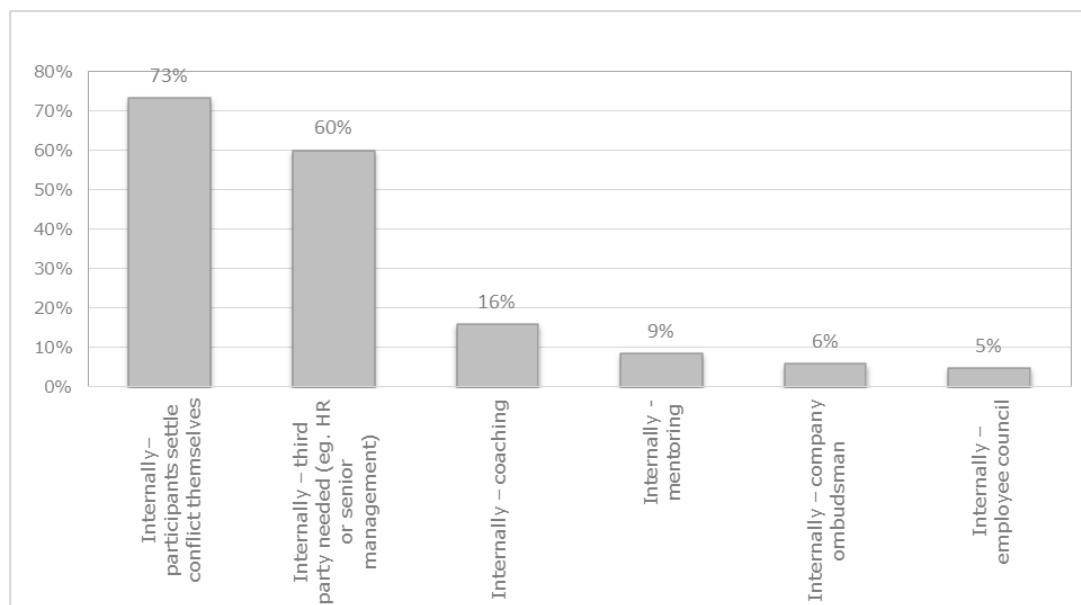
Source: Author

**Hypothesis 2: Traditional dispute resolution techniques (peer-to-peer solutions, internal third party involvement) are used more than modern professional mediation techniques. This hypothesis was also confirmed.**

The results show that the top six most frequent methods used for resolving internal conflicts are, in order of rank:

- 1) Resolution by the participants themselves - the parties in the conflict sit down and discuss the issue(s) and try to come up with a solution that all the parties can get behind. This approach relies on the maturity of the individuals, places the responsibility for conflict resolution firmly in the hands of employees, and reduces the number of situations in which managers need to get involved in what they consider minor conflicts.
- 2) Third party involvement- team members are not able to come to a resolution and therefore, depending on the issue, contact either their direct superior or HR department. Although many superiors do their best, they may not have formal mediation training and often use their intuition, apply their own preferences, and under time pressure, make decisions on the outcome of a conflict, rather than help to resolve it. On the other hand, some are natural mediators and can do a great job.
- 3) Coaching – managers decide that there is a need for a change in behaviour on an individual level and decide to help the individual by providing them with a coach, or by coaching the individual themselves.
- 4) Mentoring – senior staff provide support and guidance to more junior members of staff who are not used to company life and the intricacies of corporate culture.
- 5) Company ombudsman – large companies often engage a professional who is responsible for helping to resolve various situations in companies, including conflicts.
- 6) Employee council – the presence of such a body also tends to be limited to larger companies.

Figure 2: Methods used for resolving internal conflicts in companies



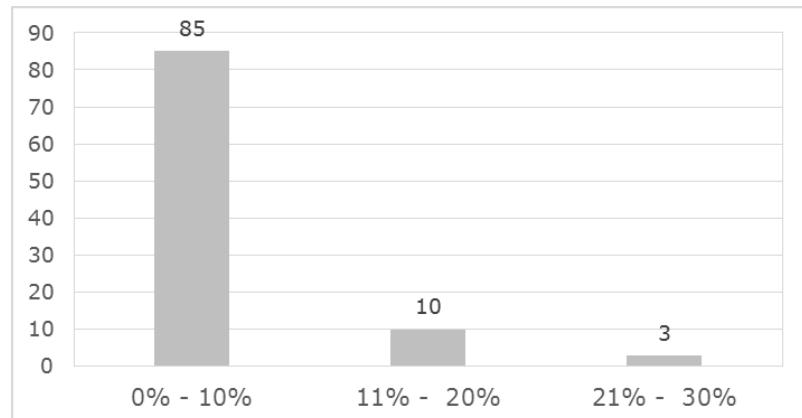
Source: Author

### **Hypothesis 3: Managers spend 20% of their work time resolving conflicts. This hypothesis was refuted.**

The results of the research into the amount of time managers spend resolving conflicts in companies are presented in Figure 3.

In total, 85% of respondents spend 0% – 10% of their work time resolving conflicts, respectively 10% between 11% – 20% of their work time, and 3% between 21% - 30% of their work time. Of all the respondents, 2% did not answer the question.

Figure 3: Amount of time managers spend resolving conflicts



Source: Author

## **Discussion**

Gagarinskaya et al. (1998) suggest that current socio-economic conditions increase the level of conflict and work stress in the workplace for demographic, economic, social and psychological reasons. Research results show that the majority of conflicts within the working population are either process or task related and are linked to team members not being able to agree on a task as such and/or on the processes necessary to finish a project. The interviewees (both men and women) identified clear job responsibilities and deadlines as critical points for creating a calm working atmosphere. As a result, team members do not duplicate each other's work and nothing is left undone.

Very important factors for creating a zero conflict environment are the availability of sufficient resources, experienced project managers with very good leadership skills, and open two-way communication – from the manager to the team members and back.

A lack of any of the above can lead to frustration among team members and therefore conflicts. Some conflicts can repeat themselves, or even worse, can spiral out of control. One very good tool with which to break this cycle is to label it as an ineffective process (Brett et al. 1998).

Interestingly, the interviewees also saw the company and project benefits of a portion of the conflicts that fall into this category; team members have to openly address obstacles and are therefore able to move things forward and come up with new solutions.

Relationship conflicts arise on two levels, namely between peers and between a manager and an employee. The first is primarily the result of differences in values, backgrounds, and levels of experience. Since 1989, the Czech Republic has opened up its borders to foreign employees at all levels, from operators on the shop floor to CEOs. The differences in culture, traditions and work ethic can sometimes cause friction. The second is often the result of employees feeling a lack of support, motivation and feedback from their boss, as well as their inability to listen to details, failure to give good advice and be an expert in their field, and an unwillingness to protect them from attacks or finger pointing from colleagues in other departments.

When it comes to conflict resolution, team members try to settle conflicts themselves. Despite relying on the maturity of the individuals involved, placing responsibility for conflict resolution in the hands of employees, and managers having to prioritize what they focus on, many of the interviewees agreed that they did not like conflict and tried to avoid it. In addition, they indicated that they had neither received any specialised conflict/mediation training, nor possessed strategies and techniques for managing such situations. The author of this paper provides mediation training to managers, after which managers state they feel confident in their ability to prevent conflicts and spend less time dealing with them.

When a team member fails, they contact their superior for help. This, depending on the issue at hand, would typically be their direct manager or HR department. Neale (1986) proved that trained professionals outperform amateurs. There are managers with great natural talent for resolving conflicts, managers who are trained, and also managers without talent or training, and in the worst case scenario, without empathy. Within this context it is therefore surprising that mediation is still not a part of standard training programmes for managers. In fact, the research presented in this article shows that only 3% of companies in the Czech Republic use mediation as a conflict management tool.

## **Conclusion**

The research conducted for this article shows that majority of conflicts in companies in the Czech Republic are task or process related (68%), followed by relationship (47%) related. On the whole, employees try to resolve conflicts themselves (73%) and that when this fails, managers are called in to help them (60%). In total, 85% of managers in Czech companies spend 0 – 10% of their work time resolving conflicts, respectively 10% of managers 11% - 20% of their work time.

Conflicts can be very beneficial for projects when managed well because they tend to “clear the air” among team members and, more importantly, usually result in new ideas and solutions. However, if managed poorly, they can be detrimental, causing delays in project deadlines, poor quality of work, or complete project failure.

Managers spend time managing their people, which inevitably involves some kinds of disagreements. Most managers spend up to 10% of their work time resolving conflict situations. In general, companies in the Czech Republic would benefit from preparing

conflict resolution training programmes for managers and employees. Provided that all team members are trained, less time would be spent on conflict management, the work atmosphere would improve and, most importantly, team members could focus on their project(s).

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# **Consumers' Perception of Green Marketing as a Source of Competitive Advantage in the Hotel Industry**

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## **Abstract**

Many companies know that the essence of business success lies in a responsible approach to entrepreneurship. Smart companies therefore not only focus on financial issues and economics, but also on the environmental and social issues related to their business activities. Green marketing is a modern tool with which to adopt current environmental trends across a broad spectrum of business activities, including those of the hotel industry, and is increasingly being perceived as providing a competitive advantage.

The aim of this article is to find out consumers' perceptions of green marketing as a source of competitive advantage in the hotel industry. It includes a literature review of both domestic and foreign sources on the issue of green marketing and its usage within the hotel industry. The main part of the article is an analysis of the principles that underly the use of green marketing in the hotel industry, which is based on the results of a questionnaire survey conducted among Slovak consumers. On the basis of the analysis, proposals are put forward for the effective implementation of these principles in the hotel industry.

**Keywords:** green marketing, ecolabel, competitive advantage, hotel industry, consumers' perception.

## **Introduction**

At present, green hotels are on-trend. However, in Slovakia, the number of hotels identifying themselves as being eco-friendly is almost negligible compared to foreign countries. This reflects the fact that many hoteliers only utilise green marketing activities to a marginal or extremely limited extent and do not seek to acquire an ecolabel. This is unfortunate, given that ecolabels help consumers gain confidence in the green claims of

hotels, and that they help exclude greenwashing by hotels, which may therefore provide a competitive advantage.

The main advantage of being identified as an eco-friendly hotel is not only the prestige and the better image that is associated with the environmental labelling, but also the low negative impact on the environment. Within this context, it is understood that carrying out marketing activities has, among other things, an adverse impact on the environment, but that the role of green marketing is to not completely exclude these activities, but to do so with respect to the environment. If hotels want to continually move forward and improve the quality of their services, they therefore need to implement the principles that underlie green marketing.

## **Materials and Methods**

The issue of the use of green marketing in the hotel industry has been researched and analysed by many foreign and domestic authors, and remains actual.

Green marketing was first mentioned by Lazer (1969) as the societal dimension of marketing in relation to finite environmental sources, the societal and environmental impacts of conventional marketing, and the greening of different aspects of traditional marketing.

Over the years, further definitions have been created and the concept has evolved and become more structured.

According to Polonsky (2011), green marketing incorporates a broad range of activities, including modifications to production processes, products and packaging, as well as advertising, whereby meeting these needs is achieved with minimal negative environmental impact. He also responded to how experts define green marketing with a number of concepts, such as green marketing, environmental marketing, and even responsible marketing. These definitions collectively focus on the process of exchange, i.e. selection and decision, subject to the consideration that the exchange takes into account and minimises damage to the environment.

Grant's (2007) definition of green marketing emphasises its basic attributes which, according to him, are: intuitiveness, integrity, innovation, initiative and awareness.

Groening, et al. (2018) created a definition of green marketing that contains the basic elements of marketing, such as price and promotion, combined with the goal of reducing environmental impact. However, the goal was not necessarily to reduce levels of consumption, rather to persuade consumers to purchase green products and services. Green marketing therefore consists of a wide range of marketing activities directed at all consumers that incorporates elements such as price, planning, process, production, promotion and people, of which the purpose is to demonstrate a company's goal of minimising the impact of its products and services on the environment.

Krivanova, et al. (2013) believe that the main goal of green marketing is to present consumers with the importance of protecting the environment within the context of

product consumption, placing emphasis on building long-term relationships based on communication not only with consumers, but also other stakeholders and to create a natural need to be environmentally responsible.

Xia and Zhang (2017) claim that the concept of green marketing requires businesses to protect the environment as their leading business ideology. This requires companies to fulfill the principle of linking their own interests in business to consumer and environmental interests, i.e. the principle of linking the business from design to recycling (Wu 2013).

Environmental issues are now a core competitive factor in product markets. In all sectors of industry, there is a much broader adoption of environmentally friendly behaviour compared to the ecological marketing era (Papadas et al. 2017).

Another aspect of green marketing is the demands of green consumers. Green consumers are at the epicentre of environmental marketing strategies. As a result, a large part of green marketing literature focuses on the determinants of their environmental behaviour, green purchasing behaviour and post-purchasing behaviour (Rypakova et al. 2015). Several studies of green consumers have shown that consumers who protect the environment, respond to the behaviour of environmentally responsible companies and this fact influences their purchasing behaviour (Willness et al. 2012).

The concept of green marketing in the hotel industry first emerged in the late 1980s. Since then, many hotels have implemented a variety of green marketing strategies, including the adoption of the "green hotel" label to project a green image and to attract potential customers. However, some companies that launched environment-based promotional activities have been accused of greenwashing by their customers (Chan 2013).

According to Nurdin (2017), green tourism marketing strategies play an important role in the sustainability of the tourism industry. He suggests that the potential of green tourism is an effective tool for sustainable development and that this provides good reason for developing countries to apply the concept in economic and conservation development strategies.

Against the background of a maturing hotel market, growing international competition and globalisation, the green marketing of hotels has become the bright spot among today's social marketing concepts. It has enriched the content of hotel marketing and management, promoted hotel marketing activities in new ways, and is indicative of the fact that hotel marketing is entering into a rationally advanced stage of industry and social responsibility (Jiang and Zhang 2007).

He (2010) states that green marketing is not only a strategy for the long-term development of hotels, but also the only optimal solution with which to achieve an equilibrium between the interests of government, society, guests and hotels alike.

According to Chan (2013), although the internet is an effective channel for marketing the environmental activities of a hotel directly to customers, environmental claims in advertisements are often met with criticism from competitors and consumer

organisations. He claims that hotel customers would be willing to pay a higher price if they knew that part of the amount paid was put towards green activities. He goes on to suggest that such green hotels could increase the image and reputation of the industry by attracting like-minded customers who are looking for such accommodation.

Rahman et al. (2015) discovered that hotels need to be mindful of what they say and do so that consumers do not become sceptical. Hoteliers need to put more effort into implementing comprehensive green programmes and making honest green claims by perpetually keeping the potential consequences of greenwashing in mind. Hoteliers also need to seek out third-party certifications that require a hotel to meet certain standards, in order to help them maintain their credibility in the eyes of consumers.

The reasons why companies, including hotels, should embrace green strategies, include the continuous rise in prices of non-renewable energy sources, the growth in demand for green products and services, the increasing pressure on the environmental liability of companies, and the resistance of consumers to globalisation, resulting in a strengthening of the influence of non-governmental organisations in the field of ecology (Danciu 2012).

Product labelling and environmental impact assessments are used as some of the many possible elements in a comprehensive environmental strategy that seeks to solve environmental problems and to motivate manufacturers to produce more environmentally friendly products and consumers to purchase particular services (Hajnšk and Rusko 2004). In order for such ecolabels to carry weight and be credible, consumers need to have confidence in those companies that designate their products accordingly. Unfortunately, this confidence may be limited or lacking.

The aim of this article is to define the theoretical basis of green marketing and its usage in the hotel industry from the viewpoint of domestic (Slovak) and foreign authors. This includes an analysis thereof based on the results of a questionnaire survey, whereby the benefits of the application of green marketing as a source of competitive advantage are highlighted and proposals are put forward for the effective implementation of the underlying principles within the hotel industry.

The secondary data for the analysis was obtained from annual company reports, statistical tables, published professional publications – both in print and electronic media - and the results of a questionnaire survey conducted among Slovak consumers on the perception of green marketing in the hotel industry. General scientific methods were applied for the processing of the data e.g. description, comparison, analysis, synthesis, deduction and induction, as well as mathematical-statistical methods to evaluate the data collated from the results of the questionnaire survey (descriptive statistics, etc.). When examining and identifying the utilisation of the principles of green marketing in the hotel industry, the definitions of the approaches and concepts that are mentioned above were maintained.

The aim of the questionnaire survey – both electronic and personal - was to determine to what extent Slovak consumers perceive green marketing to be a source of competitive advantage in the hotel industry.

The sample size was determined using the Sample Size Calculator that forms part of Creative Research Systems' survey software and which is provided as a public service. The calculator determines how many respondents need to be interviewed in order to get results that reflect the target population as precisely as possible. This is necessary to avoid any distortion in the survey information. The process requires a base file to work from, which in this case consisted of population data for the Slovak Republic, and in particular data on those aged 18 and above, i.e. 3,932,092 people. The age limit of 18 years was selected because this is considered the age at which people become financially independent and can make personal choices within the hotel sector. The confidence interval was set at 5%, with a confidence level of 95%. This means that for the questionnaire survey a 5% margin of error is assumed. The sample size calculated by the calculator was determined to be 384 respondents. In total, 407 respondents participated in the questionnaire survey.

The questionnaire survey was conducted during 2018. The selection of the respondents in the sample set took place at random and was based on the number of Slovak inhabitants aged 18 years and above that represent the target groups of the hotel industry. The quantitative assessment method was applied to the processing of the information obtained from the questionnaire survey. The data were processed empirically in the form of absolute numbers and percentages in relation to age (specifically the following generational groups: Baby Boomers and Generations X, Y and Z), with additional written comments and comparisons.

## **Results**

The phenomenon of eco-friendly hotels has had an impact on many countries, with the Slovak Republic being no exception. Although people are still not fully aware of this trend and the Slovak Republic has fewer eco-friendly hotels than in neighboring countries, it can compensate for this through the quality of the services provided.

### **Analysis of principles underlying the use of green marketing in the hotel industry**

The first eco-friendly hotel in the Slovak Republic was the MaMaison Residence Hotel Sulekova in Bratislava, which belongs to the international network of MaMaison Hotels & Residences. It was initially certified in 2008, but lost its certificate in 2009 because it did not comply with the changed conditions in terms of building modifications. This reflects the ease with which ecolabels could be obtained in the past, and the difficulty of maintaining them in the future.

The eco-friendly Hotel Dalia in Kosice can be proud of obtaining the EU Ecolabel. Its goal is to minimise waste production and to install new, innovative technologies to help both employees and guests save resources.

Hotel Bojnicky & Vinny Dom is also the holder of the EU Ecolabel since April 2016. Since then, it has been constantly developing its ecological activities. One of the main reasons

why the hotel sought to obtain the ecolabel was the management's interest in bringing the environmental issue closer to the general public.

Although the Danubia Gate Bratislava is neither a holder of the Slovak Ecolabel nor the EU Ecolabel, it still belongs to the group of eco-friendly hotels. Since 2012, it is an official member of The International Ecotourism Society, whose main objective is to associate businesses to minimise adverse impacts and increase environmental awareness in tourism.

The Czech Republic is larger than the Slovak Republic, not only in terms of size and population, but also in terms of the number of eco-friendly hotels it has. According to the Czech Environmental Information Agency, at the beginning of 2018 there were 5 green hotels in the Czech Republic that were holders of the Czech environmental certificate Environmentally Friendly Service and the EU Ecolabel.

Switzerland, a country that has a tremendous amount of experience in the field of tourism and hospitality, is constantly paying attention to this issue. It offers a large number of accommodation facilities that meet the requirements and are environmentally friendly. Because there is a shortage of resources in the country, hotels try to conduct their business activities in such a way that they have the least impact on nature and use alternative sources to operate properly.

Based on the European Commission's database, Italy is the country with the largest number of eco-friendly hotels (157 in total). Through the combination of their ecological activities and their contribution to ecological tourism, they ensure they do not harm the environment or destroy its value in any way. It is their responsibility to preserve the environment for future generations and make it a better place (Green Pearls, 2018).

As tourism is one of the fastest growing sectors, the demand for sustainable and alternative opportunities is steadily increasing. Worldwide, completely new eco-friendly competitors are emerging, which means consumers can more easily compare prices.

Table 1 below shows the number of hotels in selected countries of the European Union that hold the EU Ecolabel, the minimum price per night for a double/twin bedded room and the number of inhabitants per eco-friendly hotel with the EU Ecolabel. The data shows that the number of eco-friendly hotels in the Slovak Republic is very low compared to Italy, and even the Czech Republic. It is also evident that the number of inhabitants per eco-friendly hotel is the highest in the Slovak Republic and Poland, which does not represent a positive result.

Table 1: Number of eco-friendly hotels in relation to number of inhabitants

<b>Country</b>	<b>No. of hotels with EU Ecolabel</b>	<b>Minimum price for double/twin bedded room [€ per night]</b>	<b>Population [million]</b>	<b>No. of inhabitants per eco-friendly hotel [million]</b>
Slovak Republic	2	74	5.4	2.7
Czech Republic	5	55	10.6	2.12
Poland	2	79	38.4	19.2
Austria	36	107	8.8	0.24
Germany	3	89	83.1	27.7
Switzerland	47	115	8.3	0.18
Italy	157	75	60.5	0.39
France	92	89	65	0.71

Source: Authors according to STATISTA 2018.

It should be noted at this point that the number of eco-friendly hotels in some countries may be greater due to the existence of independent agencies and organisations that issue their own ecolabels to promote sustainable hoteliering, such as Green Key, Green Pearls, or country-specific ecolabels.

Despite this fact, it is not just the number of hotels in which the Slovak Republic is lagging behind other countries. Unfortunately, it is also a reflection of the overall approach to the environment, of the effort to build hotels that have a low negative impact on the environment, and of the credibility of hotel marketing activities, which is failing to stem the scepticism and mistrust consumers have in environmental claims.

Based on the analysis, it is clear that the Slovak Republic should take note of what is happening in countries like Switzerland and Italy. It is these countries that care about their environments and the construction of new eco-friendly hotels. In Italy, hotels build farms and gardens to supply their restaurants with organic products. They only support cooperation with local suppliers that provide them with fresh and healthy raw materials because they know that imports from other countries increase emissions. They engage their employees in training programmes to provide high-level knowledge to customers about what habits they can acquire or how they can contribute to protecting the environment, even after leaving the hotel.

Today's consumers no longer buy on the basis of a hotel's green claims. It is essential for hotels to continually integrate environmental practices to increase consumer confidence (Science Daily 2015).

## **Results and analysis of the questionnaire survey**

Of the 407 respondents in the sample set, 273 (67%) were female and 134 (33%) male. The respondents were subsequently divided into generational categories (Baby Boomers and Generations X, Y and Z) according to their year of birth and their responses escalated accordingly. This delivered the following breakdown of the sample set:

- Baby Boomers (born 1946 – 1964) - 46 respondents (11%);
- Generation X (born 1965 – 1979) - 95 respondents (23%);
- Generation Y (born 1980 – 1995) - 163 respondents (40%);
- Generation Z (born 1996 – 2009) - 103 respondents (25%).

The results of the questionnaire survey revealed that Generation X most frequently came across the concept of green marketing in the food sector (28 respondents – 29%) and in gastronomy (20 respondents – 21%), with the hotel sector lagging well behind (3 respondents – 3%). Baby Boomers (13 respondents – 28%) and Generation Z (25 respondents – 24%) were more likely to have come across the concept in connection with toiletries and cosmetics, with the hotel sector, once again, lagging behind (2 respondents – 4%), as well as 4 respondents (9%) saying that they did not even know the term. This lack of knowledge and experience of green marketing was also the case for Generation Y (7 respondents – 4%) and Generation Z (3 respondents – 3%).

All four generations engage in environmental activities, but only rarely. Generation Z is the most interested in being actively engaged in environmental protection activities (61 respondents – 59%), whereas Generation X (13 respondents – 14%) showed the least interest.

From the results of the questionnaire survey it is also clear that Generations X, Y and Z are more likely to heed and take note of the ecolabels attached to a hotel if this fact is pointed out to them. Baby Boomers are not interested in whether a hotel holds ecolabels (27 respondents – 59%), whereas Generation Y (46 respondents – 28%) indicate that it is the second most important element when it comes to choosing a hotel.

Respondents indicated that for the most part they do not choose a hotel on the basis of it holding an ecolabel, but on the basis of it carrying out green activities. This is particularly the case for Generations X and Z, with more than 50% of respondents in the given categories indicating as such (Generation X - 52 respondents; Generation Z - 52 respondents). Otherwise, a non-eco-friendly hotel was more likely to be selected by Generation X (30 respondents – 31%) and Baby Boomers (23 respondents – 50%).

The choice to stay at an eco-friendly hotel may be conditioned by recommendations from other consumers or driven by curiosity and interest. Generations X, Y and Z showed a preference for hotels that do not have any ecolabel, but which present their green activities on the basis of claims. This contrasts sharply with the attitudes of Baby Boomers who have no interest in environmental labels and the green activities of the hotels they stay at. This fact may be caused by their general distrust of, and the misleading

information about, green services. Within this context, the right ecolabel may provide the necessary credence to such green services provided by a hotel.

Although the percentage of respondents that have had no experience of eco-friendly hotels was high (285 respondents – 70%) across all the generational categories, there were some respondents (94 respondents -23%) who had.

The countries where respondents most frequently visit eco-friendly hotels include the Czech Republic (36 respondents – 9%), the Slovak Republic (31 respondents – 8%) and subsequently countries like Germany, Great Britain and France.

Generations X and Y have the highest interest in choosing an eco-friendly hotel on the basis of environmental interest (Generation X – 15 respondents (16%); Generation Y - 26 respondents (16%)), with Baby Boomers and Generation Z having the lowest interest (respectively: 5 respondents – 11%; and 11 respondents – 11%). The quality of service is the most important factor for Generation Y (68 respondents – 42%) and recommendation from family and friends for Baby Boomers (15 repondents – 33%). The environment is the most important factor for Generation Z (52 respondents – 50%).

According to Generation Y (109 respondents – 67%), holding an ecolabel is a big competitive advantage for a hotel. This stands in contrast to Baby Boomers (20 respondents – 44%), Generation X (49 respondents – 52%) and Generation Z (63 respondents – 61%) who were unable to assess whether an ecolabel provides such an advantage.

It was confirmed across all generational categories that during their experience with eco-friendly hotels, the respondents were familiar with a variety of environmental protection activities, with the highest percentage being among Generation Y (95 respondents – 58%), and the lowest percentage among Generation X (34 respondents – 36%). At the same time, it was observed that Generation X (19 respondents – 20%) did not show such a high interest in the issue and did not follow the specific activities of hotels. Generation Z showed similar results to that of Baby Boomers (26 respondents – 56%).

Regardless of which generation the respondents belonged to, the majority would recommend eco-friendly hotels to their friends and family. However, a number of Baby Boomers (5 respondents – 11%) and Generation Z (11 respondents – 11%) stated that they would not recommend eco-friendly hotels at all, which represents a high percentage compared with the other two generations.

The results show that all four generations view prices as playing an important role in their decision making, but that they were willing to pay more if the price incorporated additional services, including environmental activities. Price did not play an important role for 38 Generation Y (23%) respondents and for only 3 Generation Z (3%) respondents.

When questioning the importance and significance of a hotel's green activities to consumers, the results for Generations X and Y were exactly the same (Generation X - 53 respondents (56%); Generation Y – 91 respondents (56%)), thereby confirming that they

are interested in similar activities and in whether a hotel performs all the activities they present to the public. This differs from the results for Baby Boomers (31 respondents – 67%) and Generation Z (65 respondents – 63%), who are not interested in whether a hotel does or does not conduct green activities and promotes them accordingly.

Baby Boomers consider saving water and energy as the most important tools with which to help the environment, whilst discounts on the use of environmentally friendly transport is absolutely unimportant to them. In addition to saving water and energy, Generation X views recycling in hotels as equally important. In a similar vein, they also identified discounts for the use of environmentally friendly transport as unimportant, as well as the use of organic products for food preparation. For Generation Y, the most important tools of green marketing are, in particular, organic toiletries, cosmetics and foodstuffs, whereas the least important factors are saving water and energy. Generation Z considers saving water and energy, the use of alternative energy sources, and recycling as the most important tools. This indicates that within the youngest generation some progress is being made with regards to interest in the environment and the choices of hotel.

## **Discussion**

Based on the above, it is possible to state that the interest in eco-friendly hotel services will grow in the future, as long as the awareness thereof is enhanced and the quality and positive benefits associated with the operation of eco-friendly hotels are highlighted. Increasing awareness and confidence in green products and services will help reduce scepticism and consumer mistrust, which should increase consumer interest and drive the demand for hotels to transform themselves accordingly.

Based on the analysis of the results of the questionnaire survey, the following measures are proposed for the effective implementation of the principles of green marketing in the hotel industry:

- Raising awareness among consumers - eliminating the lack of information and the associated low level of green marketing through appropriate communication channels. Social networks, hotel websites and customer reviews are the appropriate way to inform customers about a hotel's green activities. An equally effective way is to use other progressive forms of marketing communication, such as viral marketing or guerilla marketing, which present easy ways to reach target groups and are not financially demanding. Membership of various associations also brings a number of benefits to a hotel in terms of relationship improvement and awareness, but also in terms of the opportunities to cooperate. Membership of a reputable hotel chain is especially advantageous due to the already established good name, particularly one that is known for its green credentials, the high quality of its services and good customer reviews, as well as in terms of the financial assistance that is provided for the implementation of new tools.

- Collaboration with other business entities - for a green hotel it is advisable to choose its suppliers with a view to eliminating negative impacts on the environment. When choosing suppliers for daily consumables and long-lasting products, care must be taken to select a local supplier, farmer and grower whose distance from the hotel is as small as possible. Collaboration with local suppliers provides value added in terms of regional quality and freshness, as well as supports the development of small entrepreneurs. Another form of beneficial co-operation is the organisation of conferences and seminars on, but not limited to, ecological topics, so that a hotel's good name extends to all participants, and beyond.
- Specific hotel activities - an important activity that can raise the profile and visibility of a hotel among consumers is engagement in various ecological activities and projects within the region or across the country. These activities can include the beautification of local areas and watercourses, and the planting of greenery. One of the ways to attract consumers and engage them in environmental activities is to implement environmental projects to raise public awareness, either through seminars, workshops and/or cultural programmes, the yield of which would be used to support the projects or activities themselves. Consumers would become familiar with the issue, whilst at the same time, the hotel would gain a higher profile, with increased consumer awareness providing credence to their marketing activities and the promotion of the hotel's main philosophy. Within this context, a good idea, that is mainly seen in foreign eco-friendly hotels, is the use of products sourced from a hotel's own garden or organic farm.
- Become an ecolabel holder - hoteliers can take steps to create a positive image of their hotel and reduce consumer scepticism. The most important step is to obtain certification and an ecolabel from an independent organisation in the field of accommodation services. A comprehensive green programme, publicly accepted certification, and the dissemination of information to customers are key strategies that can make a hotel more trustworthy in the eyes of consumers.
- Measures to eliminate negative impacts on the environment - every hotel that wants to take a positive attitude towards the environment should start its green activities as quickly as possible, depending on the available funds. This includes not only recycling, but also the reduction of the amount of plastic waste through the elimination of single-use breakfast packs and cosmetic products. It is also necessary that hotels eliminate the high consumption of water through the introduction of eco-friendly systems. In a similar vein, it is advisable to replace chemicals and harmful detergents with eco-friendly products.

## **Conclusion**

When taking into consideration the enormity of the pollution around us, which is largely due to human factors, the increased interest in environmental protection is an extremely positive trend.

Although the analysis of the results of the questionnaire survey revealed that the utilisation of the principles of green marketing by Slovak hotels is lower than abroad, the expectation is that the number that do will increase.

Consumers are generally actively engaged in environmental protection. Green marketing as a source of competitive advantage in the hotel industry was largely identified by Generation Y (which represents the main target group of hotels), whose confidence in eco-friendly hotel services is also rising.

If a hotel utilises green marketing as an opportunity, it can gain a strong position amongst the growing competition. However, sustaining and developing such a position requires constant and consistent control and innovation. Within this context, any hesitation whatsoever will cause a hotel to lag behind, which will be mercilessly taken advantage of by its competitors.

The effective implementation and utilisation of the principles of green marketing in the hotel industry:

- reduces consumer scepticism;
- increases consumer confidence;
- increases interest in green hotels;
- increases the numbers of customers with ecological thinking;
- increases hotel revenues;
- enables development of a strong market position;
- raises awareness among existing and potential customers;
- increases brand value;
- strengthens a hotel's image;
- creates customer loyalty;
- links the good name of a hotel with the high quality of services provided;
- generates mutually beneficial cooperation with other business entities;
- increases traffic on websites and social media sites.

If a hotel therefore perceives all its green marketing activities as opportunities, applies them correctly, without having a negative impact on the environment, they will help the hotel to maintain its competitive advantage and achieve its environmental goals.

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# **Financial Self-Sufficiency and the Position of Selected Types of Small Municipalities in the Region of South Bohemia in 2013 - 2016 (A Case Study)**

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## **Abstract**

In recent years, small municipalities have been gaining an increasing research interest, most notably in the areas of sociology and geography, yet the economic standpoint has not been sufficiently examined. Presented is an introductory case study on selected types of small municipalities of the South Bohemian Region (the Czech Republic) discussing their financial self-sufficiency and dependence on grants in a certain period under review (2013 - 2016). As regards the Czech Republic's settlement structure, a specific category, considering small municipality as a unit with 500 - 9999 inhabitants, was established for the research purposes. The main part of the study encompasses a financial analysis of the corresponding municipalities, included in the category. Financial self-sufficiency and dependence on grants were assessed based on particular ratio indicators, i.e. own revenues and selected own revenues in relation to total revenues, and covering capital expenditures by investment transfers. It was found that the majority of municipalities have sufficient revenues to cover their expenditures. For the small municipalities concerned, however, this is at the expense of capital expenditure limitations, and in order to cover their investment projects, it is necessary to increase own revenues by grants.

**Keywords:** small municipalities, Region of South Bohemia, financial self-sufficiency of municipalities, investment transfers.

## **Introduction**

This article presents a case study that focuses on the position of selected types of small municipalities in the Region of South Bohemia. It includes an analysis of grant opportunities according to the specifics of these municipalities in comparison to larger municipalities nationwide and in Europe. The main purpose of the research was to conduct a detailed analysis of the grant drawdown by the aforementioned municipalities for the period 2013 - 2016. In doing so, particular attention was paid to a variety of criteria, as well as the classification and quantification of transaction costs related to grant programmes that may be used by these municipalities.

The case study is a follow-up to a previous analysis carried out by one of the authors into the use of grants by selected municipalities (a representative sample set of municipalities determined by size) in the Region of South Bohemia during the period 2009 - 2015. Overall, the findings revealed that there were significant disparities in terms of the administrative demands connected to grant applications and the actual grant administration itself, but that this was not dependent on the size of the municipality. However, the hypothesis that regional grants are mainly drawn down by medium-sized and large municipalities, but inconsistently by very small municipalities, was confirmed. The results also revealed that such grants are primarily utilized to fund non-investment expenditures, with minimum funding for investment projects.

## **Theoretical Basis**

Urban and rural municipalities have evolved differently over many years, whereby the former have become centres of crafts, trade, industry and services, and the latter of agricultural production. In the past, large numbers of people from rural areas moved to cities/towns and became the source of their growth and urbanisation (Novotný 2016). However, the differences have been eliminated in recent years. At present, the boundaries between the designations "town" and "country village" have tended to become less clear as towns have expanded into surrounding areas, whereby the urban and rural elements have blended together. Indeed, a transitional form of both designations has also emerged, as a result of which it is often not possible to clearly determine which settlement structure a built up area belongs to (Vaishar 2013).

The sociological and geographical issues related to settlement structures in the Czech Republic and in the European Union have been discussed by a wide range of authors. Within this context, current sociological research is primarily focused on the detailed examination of the dichotomy of two basic types of settlement structures (i.e. towns and villages), and monitors, in particular, the emerging regional disparities at higher geographical levels (notably the differences in the achieved socio-economic level and the dynamics of changes in socio-economic growth). The assumption is that varied aspects of living conditions in different types of environment or territories (such as the provision of services, economic opportunities, physical and social environment) influences the

population and its quality of life and may therefore lead to disadvantages for certain population groups in some locations (Macešková et al. 2009).

In contrast, small municipalities, both in terms of their position and definition, have not been given enough attention, and their role in sociological research has been somewhat neglected (Malý 2016). The structural omission of small municipalities from social science research is all the more surprising when European settlement structure is taken into consideration, which is characterised by a dense network of small territorial units (Steinführer et al. 2016; Vaishar et al. 2016). The situation has begun to change in recent years. In 2013, systematic research was launched into smaller urban areas within the European Union. For example, the ESPON TOWN project focuses on the characteristics of small and medium-sized municipalities in individual EU member countries (Sýkora and Mulíček 2017; Servillo et al. 2017). The position of small towns in Slovakia was addressed by Novotný et al. (2016), who state that such units are specific settlement structures which have certain elements of towns and villages and which maintain their position as important centres due to the service functions they fulfil for their residents. Meili and Mayer (2017) examined small towns in Switzerland and gave an overview of their economic characteristics and developmental dynamics, and conceptualised their links to neighbouring towns and surrounding areas. Vaishar, Zapletalová and Nováková (2016) looked into the position of small towns within the Czech settlement system and concluded that the role of such units varies due to their historical development, regional differences, distances from regional centres, accessibility and human capital. A specific analysis of small towns in the Moravian-Silesian Region, conducted in 2012 by a group of scientists led by Prof. Vaishar (2012), claimed that small towns had become the foundation of the rural settlement system because they provide rural areas with essential functions in the spheres of employment (job opportunities), urban services and social contacts.

With regards to current geographical research, the position of small towns in the global economy was assessed by Knox and Mayer (2013) and by Kresl and Ietri (2016). According to them, such towns may become significant areas, particularly in regional economies, provided they take full advantage of their opportunities and focus on their specific characteristics. Their strengths lie in their own identity, the social life, residential quality of life, traditions, urban amenities and the viability of public spaces. Other authors came to the conclusion that the social characteristics of populations differs more considerably within territorial units than between these units themselves (Perlín et al. 2010; Kubeš and Kraft 2011; Šimon 2017). The most important geographical factors for regional differentiation include settlement hierarchy, macro positional attractiveness and inherited economic specialisation (Hampl 2015). Additionally, the geography of small towns is the geography of small areas that form parts of the regional geography. Due to their size and the number of residents, small towns allow detailed explorations of reality and the testing of certain methods that could be applied in both rural environments and large cities alike (Vaishar 2012).

## **Methods and Data**

### **Territorial Structure of the Region of South Bohemia**

The Czech Republic is characterised by a fragmented settlement structure, which within the European Union is also the case in Slovakia and France (Půček et al. 2015). Both within the European context and that of the objective reasons for the fragmented settlement structure, the number of Czech municipalities can be considered to be very high (Hampl 2007). A specific characteristic of Czech settlement structure is the existence of a large number of municipalities that combine elements of rural and urban municipalities. At times, the differences between urban and rural settlements cannot be clearly defined. In some cases, the municipalities neither meet the requirements for qualifying as a town, nor those for qualifying as a village, whereas in other cases, they are classified as towns, even though they do not comply in terms of the number of inhabitants. Another characteristic element of settlements in the Czech Republic is the significant differences between the numbers of inhabitants of individual municipalities and the existence of a large number of very small municipalities with less than 500 inhabitants (Czech Statistical Office 2016).

In view of the location of the authors' workplace and their very good knowledge of the surrounding environment, the Region of South Bohemia was selected as the area of research interest. With the selection came better opportunities for obtaining information and cooperating with local entities. The region's position in the regional system of the Czech Republic is quite specific. It covers an area of 10,058 km<sup>2</sup> and is the second largest region in the Czech Republic, although this is not reflected in the number of inhabitants, which stood at 638,782 as of 31.12.2017 (according to data from the Czech Statistical Office). The population density (63.5 inhabitants per km<sup>2</sup>) of the Region of South Bohemia is the lowest among the regions of the Czech Republic, with large differences between the border areas and those areas further inland. However, the number of small municipalities in the region is above average when compared with other Czech regions. In connection with the recent nationwide suburbanisation process, the total percentage of the urban population has gradually declined. As of 2016, the number of municipalities in the region totalled 624, of which 55 were towns, in which 63.6% of the regional population live. There are also considerable differences between several regional towns in terms of the number of inhabitants, e.g. 350 inhabitants in the town of Rožmberk nad Vltavou in comparison to 93,470 in České Budějovice. The category of smallest (or very small) municipalities in the region by population (with up to 500 inhabitants) currently stands at 436, representing 70% of the total number of municipalities. This compares sharply to the number of municipalities (155, representing 25% of the total number of municipalities) that are classified as small (with 501 - 3,000 inhabitants). There are also 33 larger municipalities (towns) in the region, including České Budějovice, which is a statutory city as well as the largest regional unit (Czech Statistical Office 2017).

Figure 1: Settlement map of the Region of South Bohemia



Source: Czech Statistical Office 2017

Prior to commencing the research, it was necessary to define the term “small municipality”, even more so because the term “small town” is specifically used in professional literature. Such a settlement unit in the Central European area is usually defined according to the number of inhabitants.

When considering specific settlement hierarchy analyses, it can be stated that they predominantly deal with structuring based on the typology of municipalities, which are subsequently seen as basic spatial units. Individual municipalities may therefore have the following status: capital city, statutory city, city, town, township, small town, and village, with special status accorded to military districts. However, when assessing spatial hierarchy, it is, within the settlement context, more appropriate to use the criterion of population size for structuring the municipalities in the Czech Republic, rather than the regular division used by the Czech Statistical Office.

The size of municipalities, as determined by the number of inhabitants, can be regarded as one of the basic parameters for the comparative study of municipalities. In terms of financial analysis, it is then possible to compare certain indicators of a particular municipality with the figures for the national level or with those for other municipalities within a given size category (Půček et al. 2015).

As previously stated, the underlying basis for the results presented in this article is the settlement system in the Region of South Bohemia. This system is characterised by a large number of very small municipalities of a mostly rural (village) nature, and which includes only one city and six former district towns (categorised as medium-sized - see below). Given the fact that rural and urban elements have gradually merged in several small(er) municipalities, no distinction is made with regards to their settlement character. As a result, when taking into account the territorial structure of the Region of South Bohemia, small municipality for the purposes of the primary research is determined according to size on the basis of the number of inhabitants.

In addition to this and on account of possible comparisons with other units in Europe, the following categorisation of municipalities (in contrast to the regular statistical division nationwide) will apply: very small municipality (up to 499 inhabitants); small municipality (500 - 9,999 inhabitants); medium-sized municipality (10,000 - 49,000 inhabitants); large municipality (more than 50,000 inhabitants). Since the defined set of small municipalities is diverse, a detailed typology of the categories according to additional criteria will be carried out in follow-up studies, whereby different categories of municipalities will be selected and further assessed, e.g. rural municipalities vs. towns, peripheral municipalities vs. suburban municipalities, border municipalities vs. inland municipalities, etc. A modified division of the municipalities in the Region of South Bohemia based on the categorisation above is given in Table 1.

Table 1: Modified structure of municipalities in the Region of South Bohemia as of 31.12.2016

<b>Category of Municipality</b>	<b>Number of Municipalities</b>	<b>Percentage of Category</b>	<b>Total Number of Inhabitants in Category</b>	<b>Number of Inhabitants in Category in Relation to the Total Number (in %)</b>
Very Small	434	69.5%	91,275	14.3%
Small	183	29.3 %	321,029	50.3 %
Medium-Sized	6	1 %	133,008	20.8 %
Large	1	0.2 %	93,470	14.6 %
<b>Total</b>	<b>624</b>	<b>100 %</b>	<b>638,782</b>	<b>100 %</b>

Source: Authors based on data from Czech Statistical Office (Public Database)

Although small municipalities represent only 29.3% of the total number of municipalities, more than 50 % of population of the Region of South Bohemia live in them.

## Methodology

The entire set of municipalities in the selected category will be taken into account and an aggregate statistical analysis conducted based on quantitative data. The subsequent focus will then be on the positioning of the municipalities according to their individual

elements. Although statistical analysis in general enables us to examine entire sets of municipalities, when interpreting the results it is necessary to take into consideration that the reporting of the determined values depends on a number of factors.

The main sources of data for the statistical analysis were the Czech Statistical Office database and, in particular, a database application called MONITOR. MONITOR is a specialised information portal of the Ministry of Finance of the Czech Republic that allows free public access to budget and accounting information from all levels of state administration and self-government. Additional information came from the Czech Republic's Central Accounting Information System and the Integrated Information System of the State Treasury, which is updated quarterly (Půček et al. 2015).

With regards to scientific literature, the financial self-sufficiency of municipalities has been addressed by a number authors. Within the context of the European Economic Area, authors like Kološta and Flaška conducted detailed analyses of the development and measurement of the financial autonomy of municipalities in Slovakia (see Flaška et al. 2017; Kološta et al. 2013). Padovani et al. (2018) analysed specific indicators of the financial health of municipalities for the purpose of making cross-border comparisons. A specific evaluation of financial performance in public administration was discussed by Zafra-Goméz et al. (2009). In the Czech Republic, assessments of the financial self-sufficiency of municipalities were also made by, for example, Kraftová (2002) and Otrusinová (2011), whilst Pavlas (2015) sought to determine an aggregate financial stability indicator (index). The partial indicators used in the latter's calculations include: self-financing capacity; capital budget balance; and the coverage of capital expenditures through investment transfers. Opluštilová (2012) also conducted specific financial analyses and assessed the financial stability of municipalities. On the basis of the research referenced above, the following ratio indicators were selected as the most appropriate for this study:

- own revenues in relation to total revenues - this indicates the independence of municipalities on transfers;
- adjusted own revenues (revenues whose amounts municipalities can influence) in relation to total revenues (i.e. own revenues less shared tax revenues);
- coverage of capital expenditures by investment transfers - this indicates how successful municipalities are in obtaining transfers to cover their capital expenditures.

In order to assess the suitability of the indicators, and given the assumed varied positions of small municipalities within the region, specific municipalities were selected for each district so that different settlement structures were represented according to the established categories. The indicators were calculated for the selected municipalities on the basis of data obtained from a statement of the aggregate budget for the individual municipalities in the MONITOR database and the development thereof during the period 2013 - 2016. The reasons for choosing the period under review were twofold. Firstly, the MONITOR database was only launched in 2013. Secondly, at the time this study was

instigated, the database did not contain data for the year 2017. When selecting representative municipalities, consideration was given to whether they were a town, township, or village. With regards to towns, an additional sub-category was defined, i.e. towns (municipalities of 3<sup>rd</sup> type) which are municipalities with extended competences, or towns that perform a wider range of tasks as part of delegated competences in their administrative district (Provazníková 2015). Interestingly, all former district towns in the Region of South Bohemia fall under this category. It should also be noted that the selection of representative municipalities was made randomly so that all categories, in terms of municipality sizes and districts in the Region of South Bohemia were represented (see Table 2).

Table 2. Selected representative municipalities in the Region of South Bohemia

Name of Municipality	Type of Municipality	Number of Inhabitants as of 31.12.2016	District
Chouštník	Rural	510	Tábor
Adamov	Suburban	821	České Budějovice
Hořice na Šumavě	Township	830	Český Krumlov
Strunkovice nad Blanicí	Township	1,225	Prachatice
Bavorov	Town	1,595	Strakonice
Nová Bystřice	Town (Municipality of 3 <sup>rd</sup> type)	3,316	Jindřichův Hradec
Milevsko	Town (Municipality of 3 <sup>rd</sup> type)	8,540	Písek

Source: Authors based on data from Czech Statistical Office (Public Database)

## Results and Discussion

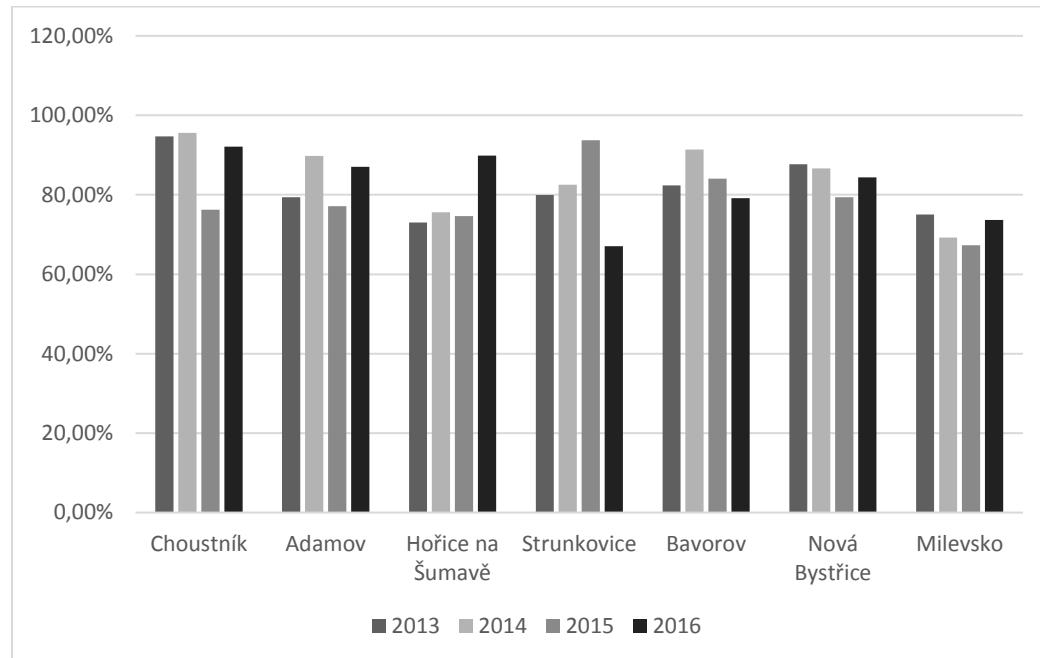
The aforementioned indicators were calculated for the selected municipalities in the Region of South Bohemia to assess their financial self-sufficiency. The results are presented graphically. For the sake of greater clarity, the municipalities were placed in order of their population size - from the smallest (Chouštník) to the largest (Milevsko). Each value is expressed as a percentage and presented for each of the years under review.

### Indicator 1 - Own Revenues in Relation to Total Revenues

This indicator was used to assess the financial stability of the selected municipalities. It expresses a certain level of municipal dependence on transfers as opposed to the ability of municipalities to self-finance without grant aid. The values calculated are given in % and presented in Figure 2.

$$\text{Indicator 1} = \frac{\text{Tax revenues} + \text{Non-tax revenues} + \text{Capital revenues}}{\text{Total revenues after consolidation}}$$

Figure 2: Own revenues in relation to total revenues



Source: Authors based on data from the MONITOR database

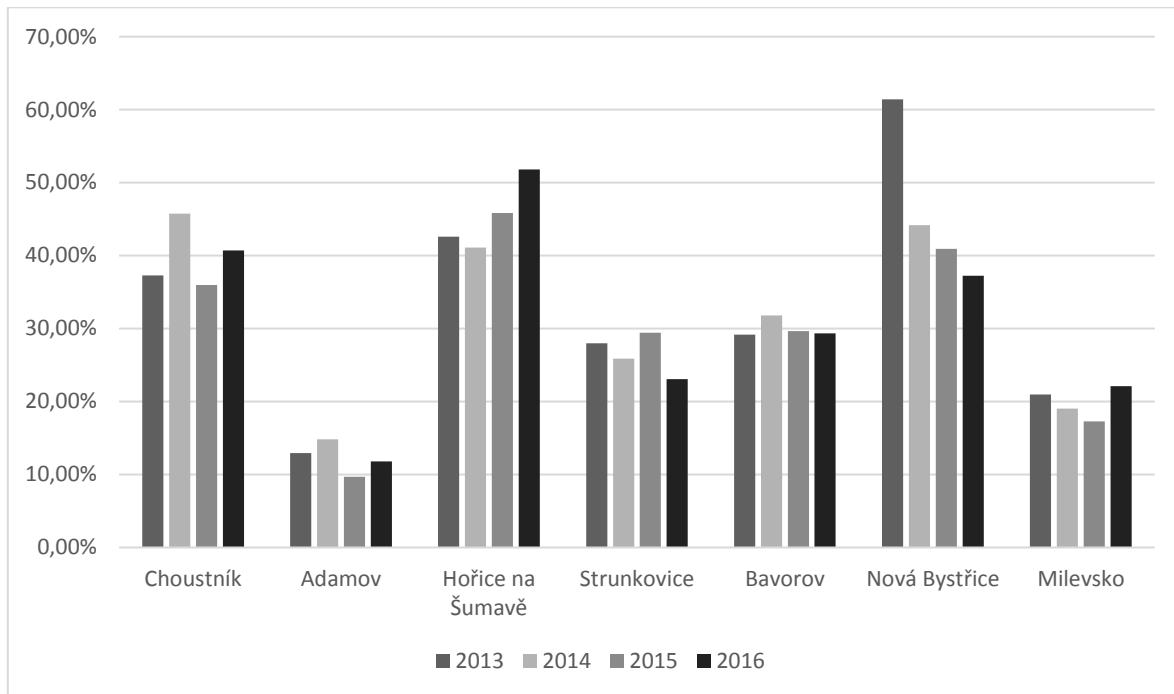
As is evident from Figure 2, the level of self-financing among all the assessed municipalities is comparable, ranging from 65% to 95%. This can be considered to be a very good result. Not surprisingly, the highest level of dependence on transfers was found to be in the largest municipality, whereas the lowest level of dependence was observed in the smallest municipality. This result can be linked to the scope of delegated competences, which is higher in larger municipalities. Hence the higher proportion of transfers required in relation to total municipal revenues. Another reason may be the higher capital expenditures of larger municipalities, which is mostly financed through grants. In general, it may be argued that the higher the percentage value of the indicator, the more financially stable the given municipality is because they are better able to cover their expenditures from own revenues. However, the indicator in itself does not have sufficient reporting value in this respect. Own revenues were therefore adjusted for shared tax revenues and Indicator 2 calculated.

**Indicator 2 - Adjusted Own Revenues in Relation to Total Revenues**  
Under this indicator, shared tax revenues are deducted from own revenues. The adjusted figure for own revenues is subsequently compared with total revenues. For this purpose, value added taxes and income taxes on legal and natural persons (with the exception of municipal business tax paid by municipalities and directed to their budgets) were

subtracted from the tax revenues of the municipalities. The values calculated are given in % and presented in Figure 3.

$$\text{Indicator 2} = \frac{(\text{Tax revenues} + \text{Non-tax revenues} + \text{Capital revenues}) - \text{Shared taxes}}{\text{Total revenues after consolidation}}$$

Figure 3: Adjusted own revenues in relation to total revenues



Source: Authors based on data from the MONITOR database

The adjustment of own revenues for shared taxes (an item which is stated in Act No. 243/2000, on the Budget Allocation of Taxes, and which municipalities cannot influence through their own activities) reveals significant differences between the individual municipalities. These differences are not related to the size of the municipalities, but are determined by additional factors that influence their economies. On the basis of the selected sample, it is not possible to clearly determine what specific factors play a role in this. Further research is therefore required into the typology of the municipalities, for example, their geographical location, historical and economic development, distance from statutory cities, transport services, proximity to national borders, etc.

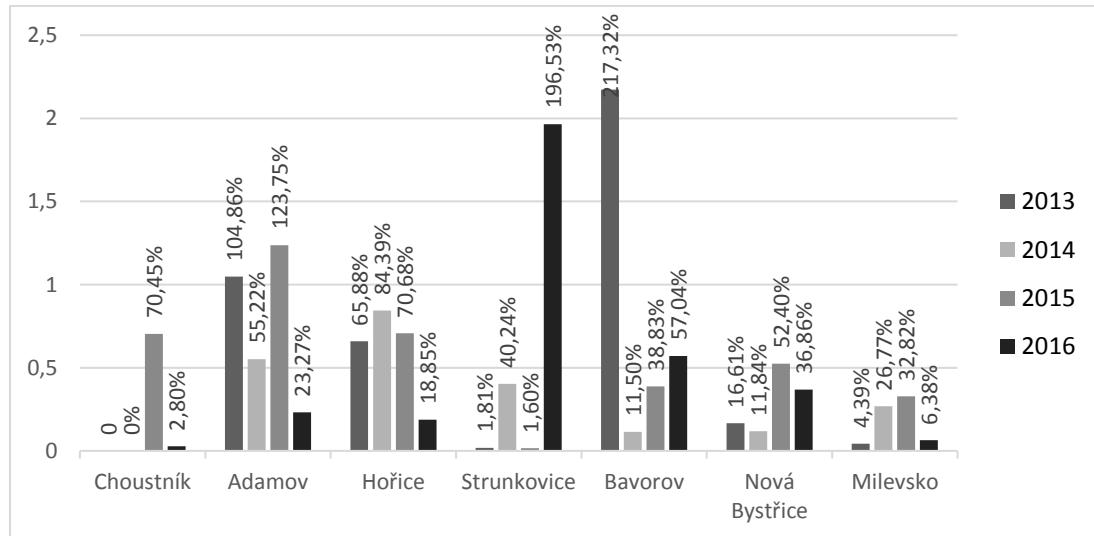
### **Indicator 3 - Coverage of Capital Expenditures by Investment Transfers**

This indicator was selected to assess what sources the given municipalities use to fund their investment projects, since capital expenditures are mainly expended on long-term investment needs. The values calculated are given in % and presented in Figure 4. Certain values exceed 100%. This is related to the fact that, in some cases, particular grants for municipalities are provided for their entire investment plans, which may have a long-term

character. As a result, capital expenditure in individual years can be lower than the investment transfers provided.

$$\text{Indicator 3} = \frac{\text{Investment transfers}}{\text{Capital expenditures}}$$

Figure 4: Coverage of capital expenditures by investment transfers



Source: Authors based on data from the MONITOR database

The results not only show significant differences within each municipality in the period under review, but also between the municipalities themselves. For the correct assessment of the results, further information on capital expenditures is presented in Table 3.

Table 3: Capital expenditures (in TCZK)

Municipality	2013	2014	2015	2016
Choustník	357	2,266	3,445	2,820
Adamov	1,441	1,168	1,886	2,621
Hořice na Šumavě	8,475	6,509	9,175	4,059
Strunkovice	2,768	4,078	12,004	4,692
Bavorov	329	1,731	7,908	7,111
Nová Bystřice	17,673	44,545	26,554	21,929
Milevsko	13,397	61,969	40,137	47,686

Source: Authors based on data from the MONITOR database

An overall comparison of the indicator values reveals, yet again, a very uneven use of transfers by the municipalities. Nevertheless, it may be stated that the smallest municipality with 500 inhabitants made the least use of transfers to fund its investment activities. This despite the fact that the capital expenditures were relatively high with respect to the size of the municipality, which covered its capital expenditures through

own revenues. At the same time, the two largest municipalities (3<sup>rd</sup> type) drew down very low levels of transfers to cover their capital expenditure needs. As for the other types of municipalities, transfers were rather used for individual activities and did not constitute a regular source of revenue with which to cover their capital expenditure needs. Overall, the lowest drawdown of investment transfers to cover capital expenditures was in 2016. This corresponds with the nationwide downward trend in investment transfers, which, according to Kameníčková (2017), is related to the start of a new programming period of grants from the EU.

## **Conclusion**

This article presents a case study of the financial self-sufficiency and dependence on grants of selected types of small municipalities in the Region of South Bohemia. Although the interest in research into small municipalities has been growing in recent years, most notably in the fields of sociology and geography, the interest from the economics point of view has remained relatively restrained.

Considering the settlement structure in the Czech Republic, and in view of possible comparisons with other EU member countries, a consolidated group of municipalities was defined for the research purposes, namely small municipality with 500 - 9,999 inhabitants. Seven municipalities in the Region of South Bohemia from the sub-categories within this consolidated group were subsequently selected and subjected to a financial analysis. Their financial self-sufficiency and dependence on grants was assessed on the basis of ratio indicators, namely: own revenues and adjusted own revenues in relation to total revenues; and coverage of capital expenditures by investment transfers, of which the development of the latter were also assessed.

On the basis of the results, it can be concluded that the selected municipalities have sufficient revenues to cover their expenditures and that the achieved values for own revenues in relation to total revenues corresponds to the values nationwide. However, this is at the expense of capital expenditure limitations in smaller municipalities, who must seek additional financial support in the form of grants to boost their own revenues in order to cover their investment projects. When assessing the use of investment transfers, there were significant differences between the municipalities, as well as between the years under review. However, these disparities were not related to the size of the municipalities. To determine the reasons for the low drawdown of grants, a more detailed typology of the selected municipalities and their differences is required. This includes an analysis of their geographical location, historical development, transport services, the scope of their functions within the context of delegated competences, and their distance from statutory cities. For each category of municipality, a separate assessment of the selected economic indicators should follow. In order to be able to comprehensively assess the economic position of the categories selected, empirical data gathered through a field survey is required. Statistical data processing is not sufficient.

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# **The Basic Principles of Massively Multiplayer Online Role-Playing Games in Relation to Philosophy**

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## **Abstract**

The aim of this article is to uncover the relationships between philosophy and Massively Multiplayer Online Role-playing Games (hereinafter MMORPG) and their discussion fora; i.e. the relevance of existential and analytical philosophy to the virtual world of MMORPGs. Content analysis of writings by famous philosophers was employed as a reliable method for gathering relevant data, as it was for collecting useful information from MMORPG discussion fora. The author assumes that MMORPGs originated as a response to the super-technical and increasingly technocratic western world from which players want to escape in order to find a simpler and more challenging, yet virtual world.

**Keywords:** globalisation, chaos, MMORPG, discussion fora, existential philosophy, analytical philosophy.

## **Introduction**

This article focuses on bringing to light the relationships between classical ontology and analytical philosophy and the virtual world of MMORPGs and their associated discussion fora. To put it more precisely, its key goal is to uncover in which way and to what extent the theories and thoughts of ontological and analytical philosophers apply to the virtual world of MMORPGs. The main theories and ideas of selected philosophers are explored throughout the text.

Challenging questions arise within this context: To what extent do MMORPGs affect the normal life of their players? To what extent does the behaviour of players of MMORPGs correspond to their behaviour as humans in the real world or, alternatively, how does language affect the behaviour of players of MMORPGs?

People of 21st century are often concerned about the modern world being too perplexing, chaotic and unclear. They are under the impression that they cannot keep up

with its rapidly increasing pace, or even that there is no place for them in this merciless and aggressive environment, which often needs only the most predatory and efficient ones. When experiencing these sickening feelings, people face fundamental existential questions which, until recently, lay hidden under the cover of a comfortable, consumer lifestyle. Subject to their life experience, more sensitive individuals will often ask themselves about the meaning of life and their unique role in this world.

## **Methods and Data**

Content analysis of writings by famous philosophers was used as the principal method for retrieving comprehensive data. The philosophers were chosen on the basis of their association with existential and analytical philosophy. The gathered information mainly concerned philosophical issues regarding questions of human existence and language as a means of social interaction; issues which reflect life in the virtual world of MMORPGs and their associated discussion fora, and which therefore stand in stark contrast to the real world. In other words, it deals with the pursuit of the meaning of life in MMORPGs and its virtual discussions and how this is reflected in the local language.

Furthermore, the research is based on the concepts indicated in the keywords and an analysis of articles by selected philosophers drawn from Scopus.com. Content analysis of MMORPG discussion fora was used as a method for identifying language particularities in MMORPG virtual discussions.

The ideas and thoughts of the selected philosophers were subsequently compared and contrasted with the principles, philosophy, behaviour and language of MMORPG players, who are at the same time participants in the associated virtual discussions.

## **Phenomenon of 21st century**

Posing these crucial questions undoubtedly results from an often negative attitude towards worldwide globalisation, which is one of the main characteristics of postmodern society. As a matter of fact, globalisation, combined with incredibly rapid technological development, has greatly affected people's public and private lives (Mezřický 2003); class and social differences have been narrowing (Daneš 2009) which results in the achievement of partial uniformity within society, whereby each individual becomes replaceable and thus loses their unique value.

In parallel with above-mentioned ontological issues, a special kind of internet game, known as Massively Multiplayer Online Role-playing Game (MMORPG), has come into existence. These games enable individuals to escape from the absurd and apparently meaningless real world into a seemingly meaningful and much more attractive virtual environment. The question is whether it is a coincidence that these games, which offer a simpler, safer and more attractive kind of self-realisation than the real world, entered the market at the same time when life speed is increasing, there is information chaos and universal values are being compromised (Aidnik 2017).

## The key principles of MMORPGs

MMORPGs devised a certain social structure within which an individual may use their skills and which modern society lacks (IBID 2017). To put it in a nutshell, the individual feels a burning need to belong somewhere, namely among likeminded people that share the same interests, goals and beliefs; whereby the essential need for a certain homogeneity is satisfied (Daneš 2009). According to Bauman (Bauman 2000), a community created on this basis should fulfil three main requirements. Firstly, the future goals or beliefs of the community must be achievable even today; secondly, that desirable goals, attitudes or interests must last into the future; thirdly, that the benefits from already achieved goals must apply to the future as they do to today (Aidnik 2017). All of these require security, steadfastness and permanency, aspects that the virtual world of MMORPGs clearly fulfils.

With respect to traditional cosmology, it could be said that MMORPGs satisfy the human need for natural order in the world, order which cherishes permanent, unshakeable and long-standing values, even though these may sometimes differ. With regards to the origin of MMORPGs, the value of the player-created avatar is calculated on the basis of their equipment, arms and, last but not least, the ability to kill enemies. However, according to Bauman (Bauman 2000), the above-mentioned qualities are in contrast to the condition of the modern world whose values are mostly ephemeral ( fleeting, transitory); the author characterises the modern age as 'liquid' and 'light' and attributes to it expressions concerning liquid flow, e.g. dripping, flooding, splashing, spraying, oozing, etc.

In such a steady and well-built virtual world, a player of a particular MMORPG creates their avatar, which represents them throughout the entire game. Therefore, with respect to ontology, a new living being is introduced to the imaginary world. Furthermore, the games take place in real time; day and night regularly alternate and all local events go round in regular cycles.

## MMORPGs and time

The concept of time in MMORPGs is also remarkable from other ontological points of view. For example, according to Heidegger (1953), time-awareness is an essential quality of human existence. A human being is not born independent of time, i.e. passive and immortal, but acquires important skills in a lifetime, adopts certain attitudes towards the environment, forms and changes their opinions and convictions and therefore secures the continuity of their existence (Röck 2018). Although MMORPGs take place in real time, a so-called 'Real Time Game', players do not feel any significant time limitation. The time awareness and therefore mortality are only seemingly fact. On the basis of Bauman (Bauman 2000), it could be said that time and death are only episodic qualities in MMORPGs (Aidnik 2017). For example, if a player's avatar dies, or otherwise fails when undertaking a task, they can do the failed mission again. This right to episodisity is a cardinal principle of such games, but is in major conflict with Heidegger's concept of an individual being of a certain time. Since players do not have to

take great care of their avatars – they may be easily deleted or replaced by others - they come into conflict with Heidegger's understanding of the time continuum according to which the autonomous existence of the individual ultimately depends on their finality (Röck 2018). Strictly speaking, in situations where an individual can create an endless number of avatars at any time, the natural time continuum necessary for the fully-fledged existence of an individual is disrupted.

The individual as a fully-fledged being is associated with another of Heidegger's concepts – alienation (Hervás 2018). This means that even though a player has created a lot of avatars and plays with only one, the others still exist, alienated from the time continuum because they do not serve the purpose of their being. On the other hand, none of the avatars are subject to a natural death, even if a player does not use them for a long time, i.e. they are alienated from their own death(s) (Röck 2018). In this way, the virtual being is subject to delay and loses its finality (Röck 2018), i.e. its mortality depends on other, external factors (technical conditions, etc.) which are only loosely related to philosophy.

However, Heidegger and Karl Jaspers, found a comprehensive solution to the issue of alienation in the depth and intensity of the experience of extreme and critical situations, which convey to us the genuine and true essence of our existence (Vlasova 2017). The aforementioned authors refer to this state as an experience of fear, anxiety and fight or, in contrast, happiness, wonderment and surprise. The suggested solution also applies to the virtual world of MMORPGs, where individual players also feel the need to experience critical situations in their lives (Jaspers 2012). However, the imaginary MMORPG world does not usually provide this opportunity for several reasons. Firstly, avatars are artificial creatures that have only external characteristics such as gender, hair and skin colour, features, clothes, etc., whilst their internal characteristics solely depends on the will of the particular player; intense emotions such as anger, happiness, doubt, sadness, etc. can only be expressed through a limited range of emoticons. The second issue is the conflict between the environment in which the avatar is situated and the player's real space. As a matter of fact, neither of these places instigates a perilous (Vlasova 2017) or extreme situation that could be considered acutely stimulating. After all, the virtual world of MMORPGs is not a real one. Even the most alarming situations can be successfully dealt with by clicking on the mouse or hitting the keyboard. On the other hand, the feeling of supposed security and safety behind the computer screen and in the comfort of ones home, which implies real space, rarely provides powerful stimuli for instigating dangerous and/or escalated extreme situations, which is absolutely vital for confirming our own existence.

### **Extreme virtual experiences**

The demand for escalated extreme situations was satisfied with the introduction of discussion fora and game chats, where an individual can utilise their skills via contact with other participants, i.e. real beings linked in a virtual, yet, to some extent, real space.

However, crucial issues of communication come to the fore. By and large, discussion fora and game chats are established on the basis of different principles than face-to-face communication. One of them, as mentioned by Bauman, is episodisity, or ephemerality (Aidnik 2017). That is to say that with one click of the mouse a dialogue can be stopped, scathing comments deleted, or a discussion skipped without gaining a deeper insight into the topic. Bauman (2000) likens this situation to two neighbours incoherently shouting at each other over a fence without touching on the subject. As a result, they only try to draw attention to themselves. All the same, trying to come up with appealing and catchy utterances that differ from the rest poses a complicated problem. As a consequence, those communicating with on another fall back on aggressive attitudes and opinions that draw attention to their comments. Nevertheless, these irreverent attitudes are necessarily subjectivised in order to be able to put up with the other communicator's hostile attitudes, irrespective of whether they have anything in common with the objective truth.

### **Objective and subjective truth**

At this point, it is important to examine the issues according to a branch of philosophy called Positivism. In a similar manner, the contentious issue of MMORPG discussion fora may be regarded as an arena where "fights" for the objective truth, i. e. facts, take place.

Positivism, and in particular neo-positivism, tries to determine objective observable facts. Within this context, participants of MMORPG discussion fora strive to reveal the objective truth in relation to a specific game situation. However, this relentless pursuit is bound to fail due to the enormity of the natural system of these virtual public discussions. The well-known sociologist, Miroslav Disman, claims that uncovering the objective truth with regards to a certain reality is not possible for a human being due to the vastness of the natural systems in which the concerned subject finds themselves (Disman 1991). The author notes that, irrespective of the technological development of modern society and the players' reluctance to tell the truth, the principle of incomplete knowledge is absolute. Furthermore, absolute truth is subject to stochastic (probability) analysis (IBID 1991), so that it is an individual themselves who decides which alternative is so important to be considered the truth.

### **Language as an indicator of the truth**

Nonetheless, a skilled worker armed with relevant facts is of critical importance even in the virtual world of MMORPG public discussions. The key requirement is to either use reliable indicators that suggest the extent of the validity of the utterance, or which at least approximate the truth acknowledged by a specific individual. Within this context, it is language itself that is regarded as the most valuable indicator.

In fact, according to some distinguished philosophers, careful language analysis may indicate whether a specific utterance makes sense. In addition, some of them state that classical philosophy precisely concerns the in-depth analysis of language and the

application of scientific methodology (Blecha 2002). Such philosophers include the likes of Rudolf Carnap, Ludwig Wittgenstein, Willard Van Orman Quine and Richard Rorty.

In his works, the former carried out an analysis of syntax, which he called logical syntax (Koscholke 2017). That is to say that he did not consider the semantics of the utterance, but only its formal ordering, on the basis of which he assigned it its meaningfulness. With respect to Chomsky's transformational grammar, the surface structure would be the most important one (Yang et al. 2017) since its grammatical accuracy, alternatively inaccuracy, would affect the entire depth of the structure of the utterance (Tuboly 2018).

Nevertheless, as far as the language of MMORPG discussion fora is concerned, it is a long way from being grammatically correct. To put it more precisely, it does not correspond to the morphological and syntactical rules of a particular language. For example, those communicating with one another tend to use contracted words or sentences, completely ignore punctuation and the appropriate use of capital letters or proper names. Furthermore, the participants improve their communications with the use of colourful emoticons which either enhance, or weaken the illocutionary force of the utterance. On the whole, the language in the virtual world of MMORPG discussion fora has fallen into a state of total chaos, which is in conflict with Carnap's requirements for logical syntax, and which requires systematic and detailed analysis.

Even so, this very specific and stylised language observes some unwritten grammatical rules. A failure to do so would make even partial understanding impossible. In truth, the language of MMORPG discussion fora adheres to a certain universal principle acquired by all participants. This fundamental principle underlies Chomsky's concept of universal grammar, which proclaims that a general linguistic knowledge is innate (Yang et al. 2017). It can be equally said that a certain disposition for such a specific and stylised language for the virtual world of MMORPG discussion fora is, at least partially, inborn.

Apart from this, there are also other, rather practical factors to take into consideration. For example, almost all MMORPGs are created in English; those communicating with one another must therefore have at least a rudimentary knowledge of this language. Furthermore, it is necessary to know the 'lore' (context) of the game, otherwise, even if an utterance complied with the rules of logical syntax and its meaningfulness was validated (Carnap introduces the term 'verifiability'), an individual who does not know the context would consider the statement meaningless.

Equally, it cannot be empirically proven that there is an innate universal grammar within such a stylised language as the jargon of MMORPG discussion fora. This language is simply too young and non-uniform to make such a bold empirical statement. This implies that a number of years will need to pass in order to determine whether the jargon survived within the rapidly changing world.

It goes without saying that the children and young people of today are inclined to understand this specific jargon more than the older generation. The reason is that the young people of today are literally overwhelmed by English from their childhood (Sádlo

2017). After all, it is the language on which most of the virtual public discussions are based. As a result, people commonly use English expressions which have become so familiar that their origin has been forgotten and they have been adopted in the Czech language accordingly, thereby becoming neologisms. That is not to say that a comprehensive understanding of this jargon is not as difficult for young people as it is for the older generation (Bley-Vroman 2018).

Likewise, a kind of partial bilingualism arises. That is to say those individuals may not be able to manage the grammatical system of the particular language, but they are able to subconsciously use a certain part of its lexicon within the proper context and without thinking about the translation into their mother tongue. Chomsky's concept of universal grammar plays a very important role in this.

As previously stated and supported by Carnap, some basic language rules must be observed, even on internet discussion fora. Without adherence to this principle, this virtual world would be thrown into utter chaos. That would result in its total disintegration. As a consequence, even though those communicating with one another in these fora only rarely follow the morphological-syntactic rules of the given language system, they are, in some way, able to **successfully communicate**.

### **Essential features of the language of MMORPG discussion fora**

In his work "Aspects of the Theory of Syntax", Noam Chomsky suggests four transformational phases necessary for the process of communication, namely lexical, syntactic, logical and phonetic (Yang et al. 2017). These phases will be discussed in reverse order, starting with phonetics.

Since the majority of communication on internet discussion fora is in the written form, the phonetic phase can be ruled out. On the other hand, the logical aspect is always present because most of the participants are familiar with the discussed topic, understand the context and accept its discourse. The syntactic and morphological aspects, as previously mentioned, are either neglected or ignored. However, the lexical phase is the cornerstone of communication on MMORPG discussion fora. That is to say that the language of these internet fora is solely built on the lexical aspects of language. The field of semantics, which assigns meaning to particular lexemes, is closely related to these lexical aspects.

As a matter of fact, participants of MMORPG discussion fora often tend to link together lexemes without syntactic continuity, although with deep lexical-semantic interconnections. On the whole, although the communication on MMORPG discussion fora is not very cohesive (syntax), it is, for well-informed users, entirely coherent (semantics). It is therefore possible to state that the grammatical-lexical aspects of such stylised jargon is comprehensible for those acquainted with it.

### **Pragmatic aspect of the language**

A more contentious issue to that of the grammatical-lexical aspects of the language is that of the pragmatics thereof. This linguistic field explores the circumstances under which a particular utterance is made. In addition, it analyses the relationships between individual statements and constitutes an integral part of a discipline called semiotics (a study of language signs) (Gasparatou 2018). Gasparatou introduces the concept of speech acts and emphasizes their importance in every day communication. In relation to MMORPG discussion fora, indirect speech acts, i.e. questions or requests, play the most important role. The basic philosophy of these acts is actually very simple. An individual raises a question in order to get some advice. Subsequently, answers, which ideally initiate a lively discussion, follow.

However, a serious and reasoned discussion only rarely takes place in the virtual world of MMORPG discussion fora, whereby a total failure of speech acts poses one of the biggest problems not only to these internet fora, but also to internet communication in its entirety. As previously noted, it could be likened to neighbours incoherently shouting at each other over a fence (Bauman 2000). These acts of speech fail in all their basic components, i.e. in illocution, locution and perlocution (Chin 2018). While locution, which means the statement itself, is comprehensible to acquainted users despite its morphological-syntactic deficiency, illocution (the intention of the utterance) and perlocution (the effect of the utterance) often fail to serve their purpose. J. L. Austin, the person who came up with the concept of speech acts, claims that special circumstances dictate an appropriate verbal reaction (Gasparatou 2018). The following lines are given as an example of the conflict between illocution and perlocution. A. refers to a questioner and B. represents a respondent.

A. Is there anybody who would help me?

B. Sorry, but no.

The example illustrates not only a total failure of the basic principles on which speech is established, but also the disruption of the natural flow of communication.

### **Discussion fora in the language of post-modern**

The arguments outlined above correspond to the issue tackled by another analytical philosopher, Richard Rorty. He claims that not a single lexicon should be privileged. This implies that everyone has the right to use the vocabulary that satisfies their communicative needs (Rorty 1989). In his work ‘Contingency, Irony and Solidarity’, the author denies the existence of the only universal truth and declares that the truth comes into existence only through an individual human utterance (Bacon 2017), i.e. each individual sees the world “through their own eyes”. This means that an individual is entitled to accept any truth which corresponds to their immediate needs. All the same, having said that, Rorty degrades the universal and objective truth to the personal level. By doing so, he subverts and corrupts the essentials of philosophy or, to put it precisely, ontology. As a matter of fact, if Rorty’s claims about partial personal truths were real, the

basic concept of truth would lose its meaning since there can be only one truth. Apart from that, Rorty also failed to admit the truth with regards to those things that may be transformed into language signs (symbols), which is speech. As individuals significantly differ in life experience, attitudes, opinions and beliefs, and each has their idiolect, individual truths would have to vary in line with the number of human beings in the world. As a result, the world would slide into total chaos, which would mean the end of the world as we know it.

This growing trend may be best reflected on internet discussion fora. As a matter of fact, people literally shout their personal truths and beliefs at one another without considering the arguments of the other participants or empathising with their situation. Bauman calls these people 'flaneurs', i.e. people who "shout" their beliefs or opinions without setting off a factual reaction to a discussed topic. In fact, their only goal is to set other participants against one another, which usually results in ruining the discussed topic (Bauman 2006). In addition, Rorty's strongly pragmatic view of language and communication only helps to fervently support these flaneurs. It might also be one of the root causes for the chaos surrounding information dissemination and the sharing of half-truths in the modern age.

Having said that, it is not my belief that Carnap's logical syntax, which only considers empirically validated and grammatically correct utterances as meaningful, would defuse this alarmingly chaotic situation. By and large, analytical philosophers such as Carnap and Rorty represent two extreme perspectives regarding language and philosophy, which, in my opinion, have lost their meaning in the modern post-factual age. Accordingly, J. F. Lyotard, a philosopher and critic of the post-modern age, declared that people of the modern age no longer create speech combinations with the necessary stability (Lyotard 1984). Furthermore, the characteristics of those combinations which are produced are usually incomunicable (Irwin 2018).

The internet discussion fora of 21st century have therefore created individuals whom Emmanuel Lévinas, a French philosopher, refers to as sovereign subjects (Greenaway 2018). According to him, people who see the universal truth only in their own, highly subjectivised world are considered sovereign subjects. The author mostly deals with the issue of ethics and proclaims that effective communication between individuals is only possible in a face-to-face confrontation (Lévinas 1979). Furthermore, he declares that there is something unbreakable and invincible in the human face, i.e. something that denies any unsubstantiated claims against the absolute truth, which therefore renders the individual disarmed (Glass 2018). However, this direct encounter is not possible within the internet world. These arguments suggest that those individuals that engage in public internet discussions can never reach a general agreement because the basic components of responsible and good quality communication, such as face-to-face confrontation, have been removed.

## Results

As can be deduced from the positions set out in this article, the virtual world of MMORPGs has deep roots in basic ontological and analytical issues, which have been present throughout human existence.

MMORPGs and their discussion fora seem to be the logical outcome of a super-technological and technocratic western world.

As a result, players eagerly seek an escape from its frenetic pace and a means by which to relativise the archetypal values of the modern age. They do this in the virtual game environment, subject to a strict, but clearly defined order, which offers an attractive and tremendously varied world where everyone has equal chances to succeed.

Furthermore, the local language is very specific as far as its morphological-syntactic and lexical aspects are concerned.

These language particularities reflect a very non-standard behaviour and rules, which each participant must adhere to.

## Discussion

With respect to the results, the question arises whether the players and communicators are able to successfully adapt to the real world when taking into consideration the sharp differences with the virtual one. For example, with regards to language and grammar, players tend to neglect, or completely ignore grammatical structures, as well as the semantic and contextual rules of the language when they speak. This raises concerns about whether players “returning” from the virtual world are able to adapt to the language used in the normal world, or if they bring with them their distorted jargon, thereby wreaking even more havoc to the already poor levels of communication in today’s world.

By and large, it seems that players should heed the advice provided by the creators of one of the world’s most famous MMORPGs – World of Warcraft. They advise players to: bring your friends to World of Warcraft, but don’t forget to take them back as well, and enjoy all things in moderation, even World of Warcraft.

The following table summarises the basic philosophical concepts marked in bold throughout the text:

Tab. 1

<b>MMORPG virtual life</b>	<b>Human life</b>
Security	Insecurity
Episodicity	Long-standing values
Steadiness	Instability
Permanency	Ephemerity
Alienation	Fear, anxiety, fight
Alienation	Happiness, wonderment, surprise
Alienation	Face-to-face communication

Source: Author

The following table presents the suggested grammatical and lexical differences in language between the virtual world of MMORPGs and real human life:

Tab. 2

<b>MMORPG virtual life</b>	<b>Human life</b>
Individual truth	Universal truth
Failing illocution, locution and perlocution	Preserving illocution, locution and perlocution
Ignoring morphology	Heeding morphology
Ignoring syntax	Heeding syntax
Ignoring context	Heeding context
Ignoring logic	Heeding logic

Source: Author

## Conclusion

The phenomenon of MMORPGs and the associated internet discussion fora will surely survive the next few decades, unless its participants find a more appealing and meaningful world in which they feel valued and respected; compelling needs which the real modern world is failing to satisfy.

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# **Innovation in the Wholesale and Retail Sectors in the Czech Republic 2008-2014**

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## **Abstract**

This paper focuses on the innovation activities of Czech wholesale and retail companies between 2006 and 2014. Based on data from four Czech Innovation Surveys (2008, 2010, 2012 and 2014), 1,630 observations were made about companies in the trade sector. The subsequent estimations are based on the structural modelling of the innovation process, i.e. decision to innovate, innovation input and innovation output. The size of a company was found to increase the probability of engagement in new-to-the-market innovation, however, no statistically significant relationship could be established for the intensity of innovation input or output. Being part of a group of companies was found to be a positive contributor to innovation activities, in particular in the first stage (decision, R&D input) of the innovation process. Significant differences were also found between the manufacturing and trade sectors in terms of market orientation. Having a national market focus was found to be linked to an increased probability of innovation, with a broader market focus proving not to be a significant factor during the analysed period. The trade sector was also found to engage in more types of innovation activities (processes, logistics and others), whereby the direct link between innovation input and innovation output was found to be in product innovation. Product innovation was also the only type of innovation in this sector which directly contributed to sales of new-to-the-market goods and services per employee. However, innovation activities were dampened in times of economic crisis, but only in terms of lower sales of innovated goods and services. The decision to innovate remained on average unchanged in the period 2006-2012.

**Keywords:** innovation, SME, productivity, manufacturing, dynamics.

## Introduction

The technological and knowledge skills-set within the wholesale and retail trade sectors is the lowest in the national economy. In comparison to high-tech manufacturing or knowledge intensive services, the value added in this sector is on average lower. Their activities are usually limited and often reduced to the resale of products. The innovation strategies and activities in this field have not been studied in detail. This study therefore aims to analyse this sector and its innovation activities and characteristics.

Current literature focuses on the fact that marketing, logistics and technological innovations are not continuously or scarcely introduced, for example, only in 11.2% of Ukrainian companies in the automotive component trade industry (Ilchenko 2016). Design innovations are examined by Schen et al. (2016). They compared the Original Equipment Manufacturer (OEM) strategy versus the Original Design Manufacturer (ODM) strategy on the basis of wholesale price contracts. They concluded that the motivation to innovate was lower in supply companies under the DOM strategy. The strategies differ and depend on the market focus and types of contracts available.

There is a link between competition, innovation and productivity in the Dutch retail trade. Creusen et al. (2009), analysed the link between producers and customers and concluded that: "competition and innovation may speed up productivity in the Dutch retail trade. But, competition also stimulates innovation, and therefore the initial effect of fiercer competition on productivity becomes even larger in the long term. However, we show that on average competition hardly increased in the Dutch retail trade in the period 1993–2002."

Literature dealing with the theoretical aspects of the trade sector is very scarce. Authors have been developing models of technological change (Nordhaus 1969; Silverberg and Verspagen 1994; Sutton 2001), but the trade sector and the importance thereof are not studied in detail. Fein (1998) suggests an evolutionary model and points to the differences between manufacturing and non-manufacturing industries. Another problem is the shortcomings in innovation research, which was studied by Žižlavský (2015) and Vokoun (2015).

## Material and methods

The sample consists of wholesale and retail trade companies identified under company codes 45 to 47 (Section G) in NACE<sup>1</sup>. The full sample set of innovators and non-innovators encompasses 1,630 observations about these companies taken from four Czech Innovation Surveys (2008, 2010, 2012 and 2014), including 307 observations about new-to-the-market innovators (57 % of innovators). Almost one third of the observations relate to multinational

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<sup>1</sup> Nomenclature statistique des activités économiques dans la Communauté européenne (NACE)

companies. It appears that companies are on average innovators in all areas, but that the standard deviation in all these areas is quite high. This higher volatility (variation coefficient 275 %) indicates that there are a range of determinants that influence innovation activities.

Table 1: Summary of statistics, Czech trade sector (NACE 45-47) in 2008, 2010, 2012 and 2014

<b>Variable</b>	<b>Observations</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
Logistics innovation	1630	0.13	0.34	0	1
Product innovation	1630	0.12	0.33	0	1
Service innovation	1630	0.12	0.33	0	1
New-to-the-market	307	0.57	0.50	0	1
New-to-the-firm	307	0.78	0.42	0	1
R&D Expenditures - in-house	336	2817.57	12799.68	0	190365
R&D Expenditures - total	479	8492.29	25787.21	0	403367
Cooperation	526	0.33	0.47	0	1
Sales	1630	1495585.00	4673689.00	530	6.52E+07
Employees	1630	142.11	400.10	10	7708
Foreign ownership	1630	0.30	0.46	0	1

Source: Calculations based on data from Czech Statistical Office (2017).

This sample does not contain micro-enterprises ( $\leq 9$  employees). The dynamic component of micro-enterprises is therefore not captured in the analysis. The results will therefore only deal with the behaviour of small, medium-sized and large companies. In summary, this sample is heteroscedastic and the regression analysis should reveal the determinants of the innovation activities of companies in the trade sector (see Table 1). The data (Czech Innovation Survey) is derived from data compiled by the Czech Statistical Office. The data are provided only for scientific purposes.

The method (see Table 2) is based on the innovation model of Castellacci (2009) and Crepon, Duguet and Mairesse (1998). The first step is to carry out a Heckman procedure, whereby innovators are selected for the second equation and the selection bias is accounted for. This is possible with the introduction of Mill's ratio (non-selection hazard variable), which is calculated from the first equation. The analysis of R&D expenditures occurs on the basis of the second equation.

The determinants of product, process and logistics innovation are analysed in the second step and then only for innovators. The ability of innovated products and services to generate profit is analysed in the third step. Since we cannot use instrumental variables due to the availability of data, some of the coefficients will be biased. The endogeneity is quite

problematic in the models. The coefficients are therefore interpreted cautiously. Due to the omitted variables, there is also attenuation bias.

Table 2: CDM and model as a recursive system of four econometric equations

Heckman procedure	$r_{it}^* \begin{cases} 1 & \text{if } r_{it} = (X_{1it}\beta_1 + \rho_i + \varepsilon_{it_1}) > 0 \\ 0 & \text{otherwise } (r_{it} \leq 0) \end{cases}$ $k_{it}^* = \ln(k_{it})  (r_{it} > 0) = X_{2it}\beta_2 + \rho_i + \varepsilon_{it_2} \text{ with } Df(k_{it}) = (0, \infty)$
Innovations (product, process and logistics)	$ppl_{it}^* \begin{cases} 1 & \text{if } ppl_{it} = (X_{3it}\beta_3 + \rho_i + \varepsilon_{it_3}) > 0 \\ 0 & \text{otherwise } (ppl_{it} \leq 0) \end{cases}$
Appropriability	$t_{it}^* = \ln(t_{it})  (k_{it} > 0) = X_{4it}\beta_4 + \rho_i + \alpha k_{it}^* + \varepsilon_{it_4} \text{ with } Df(t_{it}) = (0, \infty)$

Source: Author

Where  $X_{nit}\beta_n$ 's (with  $n = 1, 2, 3$  and 4) are the vectors of the explanatory variables and  $\varepsilon_{itn}$ 's (with  $n = 1, 2, 3$  and 4) are the random-error terms that can be estimated with fixed effects  $\rho_i$ . The error terms are assumed to be independent of the exogenous variables, but with a bias due to the omitted variables and endogeneity. Under the Heckman procedure, the error term is estimated as a system (Heckman, 1976). The vector of the parameters to be estimated is denoted as  $\beta_n$  (with  $n = 1, 2, 3$  and 4) and the single parameters to be estimated as  $\alpha$  in the last equation (innovation input-output elasticity).

The first equation ( $r_{it}^*$ ) deals with the probability that company  $i$  engages in new-to-the-market R&D activities in a given year  $t$ . This is specified as a panel probit model, i.e.  $P(r_{it}^* > 0) = \Phi(X_{1it}\beta_1)$ , where  $r_{it}^*$  equals 1 if firm  $i$  is an innovator. The second linear equation ( $k_i^*$ ) describes innovation input (the log of internal and external R&D expenditures in relation to the number of employees in firm  $i$ ). In all the equations, there are a number of potential determinants ( $X_{nit}\beta_n$ 's), such as a company size, foreign ownership (a multinational firm), being part of a group of companies, cooperation, etc. Some of these determinants are used uniquely to identify each equation in a simultaneous estimation (i.e. hampering factors).

The second step ( $ppl_{it}^*$ ) deals with the probability of firm  $i$  engaging in the new-to-the-market product, process and logistics innovation in a given year  $t$ . This is specified as a panel probit model, i.e.  $P(ppl_{it}^* > 0) = \Phi(X_{3it}\beta_3)$ , where  $ppl_{it}^*$  equals 1 if firm  $i$  is a product, process and/or logistics innovator respectively.

The fourth equation ( $t_{it}^*$ ) models the innovation log of sales of goods and services in relation to the number of employees. Here the focus is on the input-output elasticity ( $\alpha$ ) and other explanatory variables ( $Xn_{it}\beta_{ns}$ ) which describe the behaviour and market determinants of process innovators. The fourth linear equation usually describes labour productivity but is not applied due to the limitations of the data available from the Czech Statistical Office.

## Results

The first step deals with the decision to innovate and the intensity of innovation expenditure as measured by total R&D expenditure per employee (see Table 4, Model 1a). The probability of engagement in new-to-the-market innovation is higher in larger companies and in companies that are part of a group. The wholesale sector is different from that of the manufacturing sector, where a broader market orientation significantly increases the probability of innovation (Vokoun, 2016). The probability that companies engage in innovation is lower in those companies that focus their operations on the EU or the world than in those that focus on the Czech market alone. The trend in the probability to innovate was constant between 2008 and 2010 (the period covers the years 2006 to 2010). This sector was able to innovate at the same pace even during the economic crisis. There was even an increase in the probability to innovate in 2012 (questionnaire covers the period 2010-2012), followed by a sudden decrease in 2014 (period 2012-2014). This decrease can be explained by the fear of a second economic crisis and the decreases in real GDP growth in the EU28 in 2012 and in the Czech Republic in 2012 and 2013.

Table 3: Innovation decision – hampering factors, Czech trade sector (NACE 45-47)

<b>Trade sector 2008 - 2014</b>	<b>(1b)</b>
	<b>New-to-the-market innovator (0/1)</b>
Innovation was not required	-1.039*** (0.31)
Lack of information about markets	0.861*** (0.30)
Lack of qualified personnel	0.754** (0.35)
Lack of credit (external sources); market is dominated by incumbents; uncertain demand for innovations; insufficient finances; lack of cooperation partners	Not significant at $p < 0.05$

Note: Robust standard errors in parentheses, \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Author

There are factors that hamper innovation activities across the whole trade sector (see Table 3). The most frequent reason stated for not innovating was because it was not required. The probability of engaging in new-to-the-market innovation activities was higher in those

companies that recognised the importance of a skilled labour force and the need to acquire market information.

Table 4: Innovation decision and intensity, Czech trade sector (NACE 45-47) in 2008, 2010, 2012 and 2014

<b>Czech Innovation Survey (2008, 2010, 2012, 2014) Trade sector</b>	<b>(1a)</b>	<b>(2)</b>
	<b>New-to-the-market innovator (0/1)</b>	<b>Total R&amp;D expenditures per employee (ln)</b>
Number of employees (ln)	0.223** (0.09)	0.219 (3.50)
Being part of a group	0.780*** (0.26)	2.568** (1.00)
Cooperation partners		Not significant
Market orientation - National	0.467** (0.22)	
Market orientation – Europe	0.599 (0.41)	
Market orientation - World	0.969 (0.75)	
Year 2010	-0.050 (0.26)	0.979 (3.00)
Year 2012	0.651** (0.28)	-1.413 (1.71)
Year 2014	-0.839** (0.40)	0.129 (1.81)
Non-selection hazard		-5.878*** (2.03)
Constant	-4.849*** (1.03)	10.559 (13.75)
Panel-level variance component	1.038** (0.51)	
Observations	1606	153
Adjusted $R^2$ within		43,5 %

Note: Robust standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Author

Innovation intensity is measured by the total R&D expenditures per employee (see Table 3, Model 2). The size of the company is not statistically significant. This result is different from that in the Czech manufacturing sector where smaller companies invest more in R&D projects than larger companies (Vokoun 2016). Being part of a group of companies

contributes to significantly higher R&D expenditures per employee. However, no link was found between R&D expenditures and cooperation with partners.

Table 5: Determinants of innovation, Czech trade sector (NACE 45-47) in 2008, 2010, 2012 and 2014

<b>Czech Innovation Survey (2008, 2010, 2012, 2014) Trade sector</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>
	<b>Logistics innovation (0/1)</b>	<b>Process innovation (0/1)</b>	<b>Product innovation (0/1)</b>
Being part of a group	0.778 (0.65)	-0.441 (0.91)	-0.518 (0.72)
Foreign ownership	-0.772 (0.64)	-0.242 (0.98)	0.587 (0.76)
Cooperation	0.165 (0.43)	0.501 (0.76)	0.963 (0.64)
Total R&D expenditures per employee (ln)	0.195 (0.12)	-0.240 (0.22)	0.267* (0.14)
Year 2010	-0.044 (0.55)	-0.698 (0.91)	0.267 (0.76)
Year 2012	-0.278 (0.42)	-0.551 (0.87)	1.562** (0.65)
Year 2014	-1.083 (0.68)	-0.714 (0.86)	1.837* (1.03)
Constant	-0.845 (0.68)	2.228 (1.45)	0.160 (0.80)
Panel-level variance component	1.181 (1.04)	2.372*** (0.68)	1.711 (1.70)
Observations	153	153	153

Note: Robust standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Author

The analysis of the three types of innovation (see Table 5) reveals that there is only one link between R&D expenditures per employee and product innovation. This analysis is however very limited due to the lack of available data. The last analysis relates to the ability of companies to generate profits from their innovation activities (see Table 6).

Sales of new-to-the-market goods and services per employee showed a downward trend in the analysed period 2006-2014 (covered by the surveys conducted between 2008 and 2014). The input-output elasticity ratio was not statistically significant. This means that there is a high heterogeneity in the ability to transform R&D expenditures into innovation outputs as measured by sales of new-to-the-market goods and services per employee in the trade sector. The only significant control variable was product innovation, which led to

increased sales from innovated goods. No other types of innovation (process or logistics) were statistically significant determinants of innovation output.

Table 6: Innovation appropriability conditions, Czech trade sector (NACE 45-47) in 2008, 2010, 2012 and 2014

Czech Innovation Survey (2008, 2010, 2012, 2014) Trade sector	(6)
	Sales of new-to-the-market goods and services per employee (ln)
Number of employees (ln)	1.165 (0.83)
Year 2010	-0.995*** (0.32)
Year 2012	-0.403* (0.24)
Year 2014	-0.752*** (0.24)
Non-selection hazard	1.129 (1.04)
Total R&D expenditures per employee (ln)	0.122 (0.08)
Product innovation	0.572** (0.26)
Process innovation	-0.306 (0.75)
Logistics innovation	0.148 (0.18)
Constant	-0.920 (3.98)
Observations	153
Adjusted $R^2$	0.399

Note: Robust standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: Author

## Conclusion

The innovation activities of Czech companies in the wholesale and retail trade sectors between 2006 and 2014 differ from the manufacturing sector. On the basis of the structural modelling of the innovation process, the size of a company increases the probability of engagement in new-to-the-market innovation, however, no statistically significant relationship was found for innovation input or output intensity. Being part of a group of companies is a strong and positive determinant of innovation activities in the first stage (decision, R&D input) of the innovation process. A national market focus increases the

probability of innovation, whereas a broader market focus was not found to be a significant factor in the analysed period. The trade sector engages in more types of innovation activities (process, logistics, and others), but a direct link between innovation input and innovation output was only found in relation to product innovation. Product innovation was also the only type of innovation in this sector which directly contributed to the sales of new-to-the-market goods and services per employee. The innovation activities of the trade sector were dampened in times of economic crisis only in terms of lower sales of innovated goods and services. The decision to innovate remained on average unchanged in the period 2006-2012.

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# **Sharing Economy - a Challenge of the 21<sup>st</sup> Century?**

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## **Abstract**

The objective of the study is to point out the growing importance of sharing economy within the current discussion about the development of advanced economies after the economic crisis between 2008-2009. The study focuses on determining the growing importance of sharing economy in the context of GDP, growth factors of sharing economy in current conditions, and social benefit function of sharing economy. The study also focuses on other sharing economy challenges of the 21<sup>st</sup> century that are connected to the overall change in human behavior, growth of importance of modern technologies for everyone, trying to lower transaction costs, and increasing the quality of life of all households. The study's conclusion aims at summarizing the importance of sharing economy for modern society in advanced economies.

**Key words:** sharing economy, GDP, transaction costs.

## **Introduction**

Sharing and sharing economy are phenomena that have accompanied human society since its inception. During the development of civilization, primarily due to the drastic increase in the standard of living of humans, the topic of sharing economy has never been a very important subject of socio-scientific research (Cheng 2006; Sundararajan 2016). This changed during the crisis years 2008 and 2009 that caused a decrease in the standard of living, which in turn started a new discussion about sharing and sharing economy. The rise of sharing economy has not slowed down since the end of the crisis, on the contrary, its importance has been continuously growing. Other important factors also helped to increase the importance of sharing economy, be it digital technologies or the growth of relative equipage of society with economic goods that can be shared. Sharing economy platforms are disruptive technologies that increase effectiveness of many branches thanks to a dramatic decrease in transaction costs and a better use of various economic goods (Cohen and Schmidt 2013; Al-Kodmany 1999). Crucial societal changes are

therefore initiated, and the functioning of traditional branches is also significantly impacted.

## **Material and methods**

### **Size of sharing economy and its potential**

The size of sharing economy cannot be easily calculated due to the aforementioned issue with its definition. In its study (Goudin 2016), the European Commission described an approach to understanding this new model of sharing economy. The study categorizes the users of sharing economy to explain the model:

- Intermediate body

Intermediate body is a key element of the current model of sharing economy. This link in the chain of sharing arranges the interconnection of supply and demand on the market. In other words, it connects users on one hand that demand certain services or goods with owners or providers on other hand that offer these goods or services. Such a body must fulfil three main prerequisites:

- a) It disposes of a sufficient sharing offer.
- b) It provides simple, clear, and safe communication between the individual parties of this model.
- c) It controls contractual compliance and thereby prevents fraudulent activities.
- Provider
- A provider of goods and services is the owner of the resources (assets, time, skills, etc.) who is willing to share these with other subjects on the market to make profit.
- User
- A user is a subject on the market who uses the resources offered by the provider.

Providers offer their resources, which can e.g. be: housing, experiences, rides, or other services that the users pay for. Users pay to use resources offered by providers. Platforms (intermediate bodies) connects supply and demand, manages communication between market subjects, payments, and contractual compliance. Bodies do this via digital platforms that are in most cases available online or via mobile applications for easier access. Since platforms are an important value added for both users and providers, they are motivated to remain in the model after initial connection.

Analyses of the phenomenon of sharing economy therefore conduct qualified estimates when assessing its size. In its analysis of sharing economy (Marek et al. 2017), the organization Deloitte estimates the size of sharing economy based on two approaches: bottom-up and top-down. Both are described below.

The bottom-up approach estimates the size from “the bottom”. It estimates the expenses of households on sharing economy services. For this purpose, the following must be estimated or calculated:

- share of user expenses that can be shared,
- share of population that uses sharing economy services,

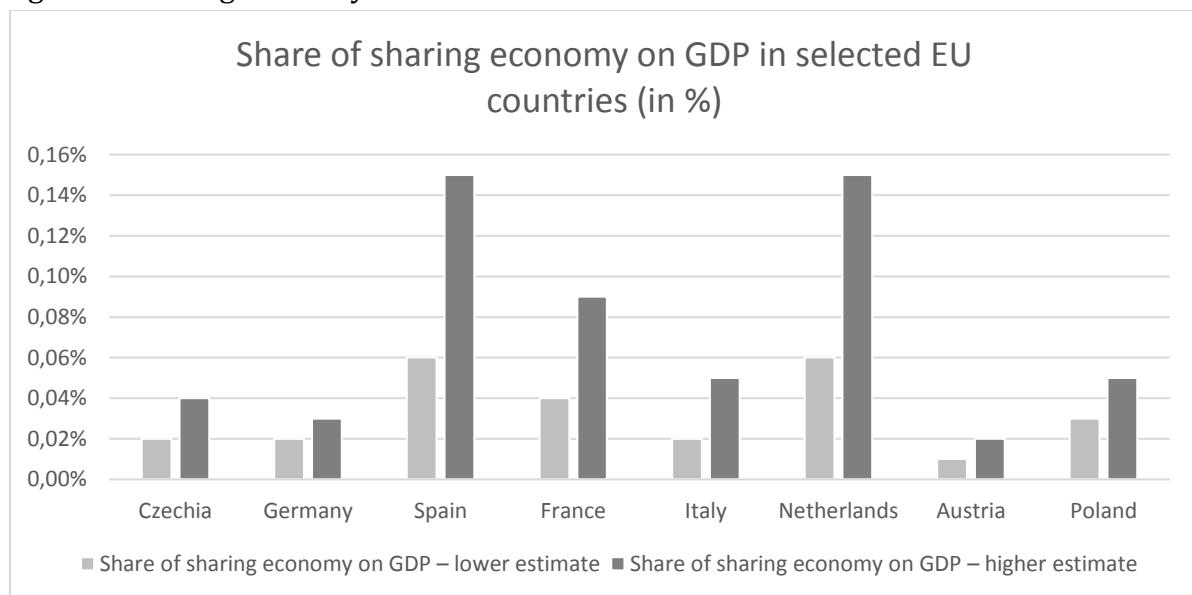
- share of expenses on sharing economy of those who use its services,
- share of GDP consumption.

The share of user expenses that can be shared was collected from the Eurostat database. Expenditure consumption was divided into segments. For the purpose of the study, the segments of expenditure consumption that can be shared were selected. This data was then multiplied by the share of population that uses sharing economy services. The Deloitte analyst team derived this share from the results of an ING research (ING 2015) that focused on population shares of individual countries using sharing economy services. The above estimated expenses were further multiplied by the sharing economy expenditures of those who use its services. This value was estimated using the share of internet purchases in economy. The last value was the share of GDP consumption, which is available at the public Eurostat database. By applying this model, Deloitte estimated the size of sharing economy in the Czech Republic to be 0.02 % of GDP.

## Results

The top-down approach consisted of using and analyzing data about value added in branches according to the NACE categorization that are significant from the perspective of sharing economy. Namely, these were the following branches: retail, wholesale, transportation, housing, hospitality and eating, finance, education, and more. The value added of these branches was then multiplied by the share of population that participates in sharing economy, the share of online purchases on household expenses that serve as an estimate of sharing economy expenses in the previous method. Using the top-down method, Deloitte estimated the share of sharing economy on Czech GDP to be 0.04 %. The following figure shows these values for selected EU countries.

Figure 1: Sharing economy share on GDP

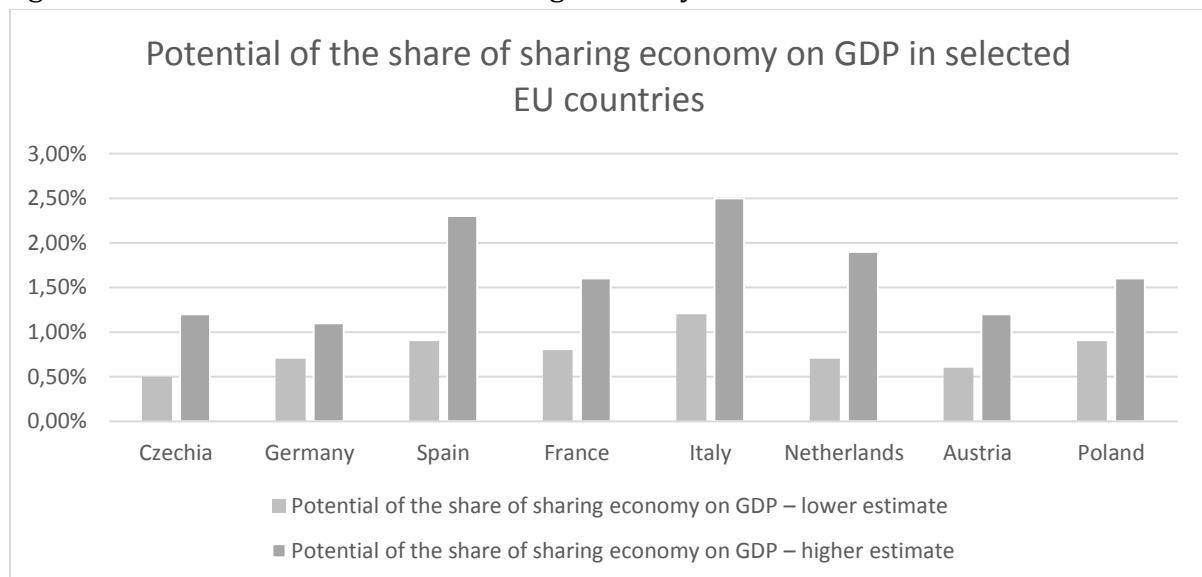


Source: Calculation by Marek et al. 2017, own design

The bottom-up approach is the lower estimate in the figure; the top-down approach is the higher estimate in the figure. The figure clearly shows that the sharing economy in the Czech Republic is not as highly advanced as in the case of other economies. The comparison was clearly more favorable to Spain, the Netherlands and less favorable to Germany and Austria. The above-mentioned methodology shows that the results in the individual countries are primarily influenced by the rate of using sharing platforms by their citizens, the value added for sharing economy's crucial branches, and the share of online payments on consumption.

When discovering the potential of sharing economy, the analysis is once again based on ING's research that for the needs of the calculations uses the percentage of population in the individual countries that have previously heard about sharing economy. In the Czech Republic, this percentage was 20 % according to ING. These percentages then substitute the willingness to participate in sharing economy in the future. Another parameter of the model is the gradual growth of the rate of online payments on consumption. According to this estimate and the bottom-up method, sharing economy will have a potential of 0.51 %, and according to the top-down method 1.19 % GDP.

Figure 2: Potential of the share of sharing economy on GDP in selected EU countries



Source: Calculation by Marek et al. 2017, own design

These estimates feature some deficiencies due to the lack of high-quality and reliable data, which is why some entries had to be generalized. Regardless, it is one of the best estimates available, which is also why this model was used in the materials for developing sharing economy by the Czech Chamber of Commerce (Czech Chamber of Commerce 2018).

The objective of the analysis is however not to precisely quantify the size of the research economy segment. The goal is to stress the fact that over a short period of time, sharing economy has attracted many users and has a large future potential. This is primarily thanks to the network effect that helps the platform grow. Mutual interconnecting of users serves also as advertisement for the platform, it increases the quality of services, provides

a more interesting supply and demand, and thanks to the self-regulation principles also manages itself internally. A shining example of the network effect is the Wikipedia portal where users mutual share, perfect, and check content. YouTube functions similarly and existentially depends on its users uploaded high-quality content (SunMarketing, 2018). The importance of sharing economy is based on new opportunities for all subjects on the market thanks to lowering transactional costs and not just its size. The growing number of users further increases this importance and shows that subjects are motivated to long-term use of the platforms and not only as one-time intermediaries of contact between supply and demand.

### **Sharing economy growth factors**

As stated above, sharing economy (after its decline in the past) has been experiencing an incredible boom in the last decade. Some of the main factors of this growth are:

- Economic crisis between 2008 and 2009,
- Technological progress in the field of digital technology,
- Relative equipage of society with economic goods that are in demand and can be shared,
- Inception of platforms that make the actual sharing easier.

### **Economic crisis between 2008 and 2009**

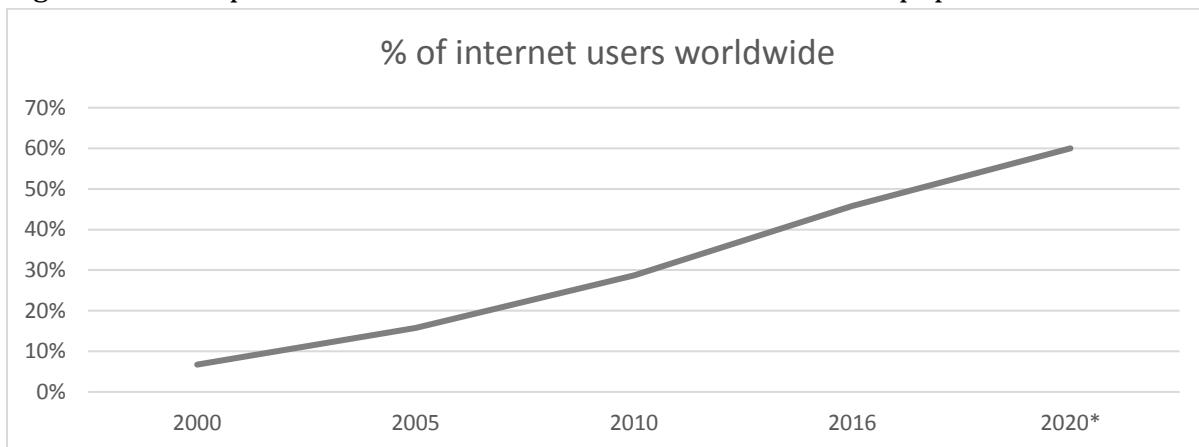
The economic crises between 2008 and 2009 negatively impacted the prosperity of the entire society that became relatively poorer. The society was then looking for possible ways of decreasing the impacts of recession. There were several ways. Sharing economy made one of the approaches much easier – lowering costs. For the users of the platforms, it was often much cheaper and more effective to short-term share goods or pay for them instead of purchasing them themselves. On the other hand, the owners of these goods saw an opportunity in sharing economy, to increase their income (Marek et al. 2017). It is therefore not a coincidence that it came to a fast growth of sharing in the accommodation branch. Travelling was still desired, but it was often needed to either decrease the amount of travelling or decrease its financial demanding character. P2P loans became the alternative to classical banks that declined a lot of loan applicants during the crisis. The decrease in the standard of living due to the economic crisis and the pressure to more effectively use resources were two of the factors of growth but they do not fully explain it.

### **Technological progress**

Another factor for the expansion of sharing economy is technological progress, primarily in the field of digital technology (Batty 2013). The development and fast adoption of modern technologies such as e.g. cell phones, smart phones, optical fiber, microchips, new battery types, etc. accelerate progress not only of the sharing economy. Internet and the rate of its usage is an important factor for the development of online platforms of sharing

economy (Van Dijk 2006). The following figure shows the development of the share of internet users in the world population.

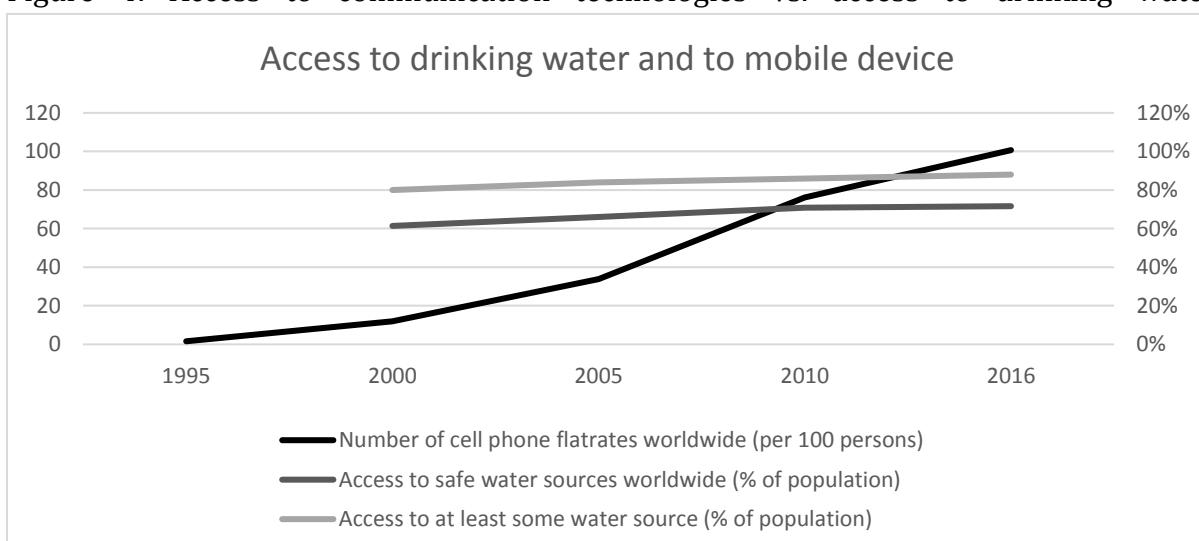
Figure 3: Development of the share of internet users in the world population



Source: Worldbank.com, own design

The more internet users, the more users and providers can use the platforms. Worldbank data shows a very favorable development of the share of internet users. Between 2000 and 2016, the percentage of worldwide population using the internet more multiplied over seven times. According to the Global Cloud Index prognosis of the organization Cisco, approximately 60 % of the worldwide population will be using the internet in 2021 (cisco.com 2016). That constitutes a growth of almost nine times since 2000. The speed of growth is also underlined by the fact that the world population is not constant and grew by approximately 1.3 billion between 2000 and 2016. The number of internet users therefore grows significantly faster than the population. The progress of digital technologies is faster than the progress of other and partially more significant aspects such as access to drinking water, as shows in Figure 4.

Figure 4: Access to communication technologies vs. access to drinking water



Source: Worldbank.com, own design

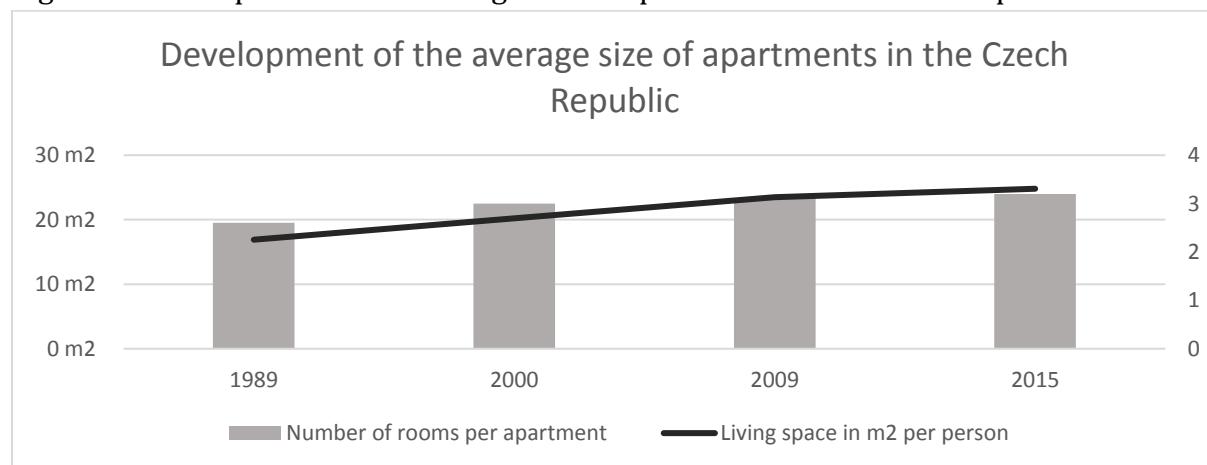
Figure 4 shows data on having a cell phone connected to a mobile network and the access to drinking water. The left axis of the figure shows the scale for the number of cell phones connected to a network worldwide, which is shown as a number of flat rates that have been used at least once in the last three months per 100 persons. Its development is the blue line. The right axis shows the percentage of worldwide population with access to drinkable water. The orange line shows the access to safe water sources – source that are safe when used over a longer period of time; the grey line shows access to at least some water source. Worldbank defines access to drinkable water as a water source that is accessible in under a half hour. Access to unsafe water sources increased by 10 % (from 61.4 % to 71.16 %) since 2000. The access to cell phones in the same period increased from 12 per 100 to 100,1 per 100.

The purpose of this comparison is to highlight the rapid growth of digital technologies in comparison to traditional branches. With this rate, it can at point happen that it will become easier to call someone or to contact someone than acquire drinkable water. Developing and expanding in the field of internet and other communication technologies can have a positive influence on the effectiveness of a wide variety of activities worldwide. This influence is positively strengthened by sharing economy. It is therefore no surprise that sharing economy has been very popular in the mentioned economy segments (housing, transportation, finance) and elsewhere. Easier and less expensive communication between market subjects provides needed flexibility that is another factor of its success.

#### *Growing equipage of households with consumer goods*

The growing relative equipage of society with economic goods that are in demand and that can be shared is another key factor for the growth of sharing economy. The following figures show the development of equipage with some goods in households in the Czech Republic between 1989 and 2015.

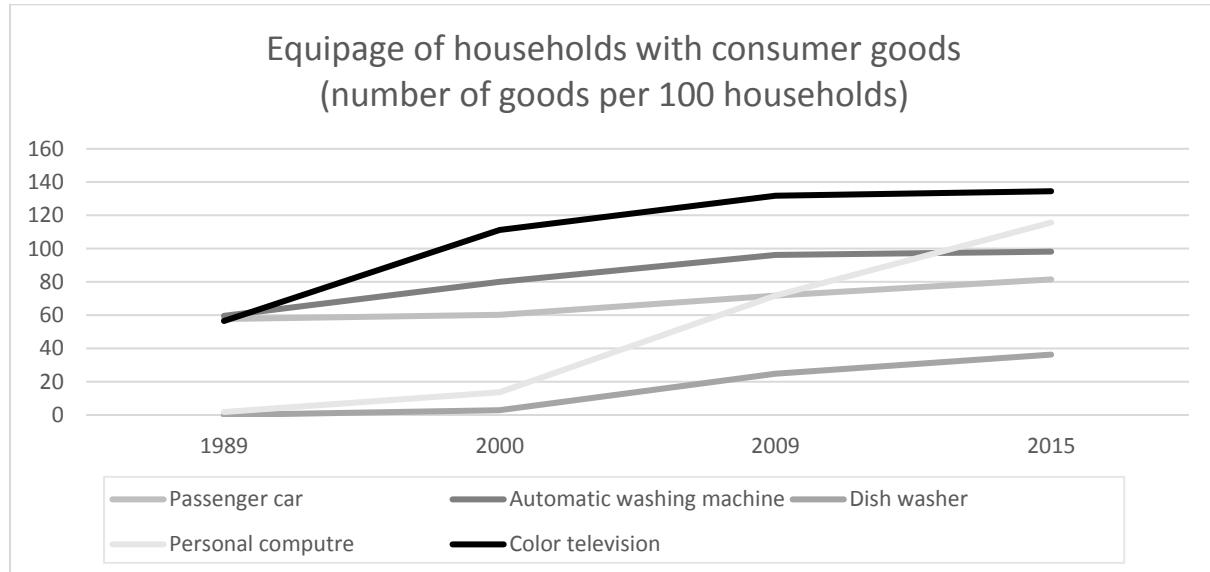
Figure 5: Development of the average size of apartments in the Czech Republic



Source: Czech Statistical Office, own design

Figure 5 shows the development of the size of apartments based on two scales. The first shows the number of rooms per flat. We can see that since 1989, this number grew from 2.6 rooms to 3.2 rooms, which is a 23 % increase. The second scale shows the size of the living space per person. Here, we observe a growth from 16.9 to 24.8 square meters, which constitutes a growth by almost 47 %. An average person in the Czech Republic therefore has almost half more living space than in 1989.

Figure 6: Equipage of households with consumer goods



Source: Czech Statistical Office, own design

Figure 6 shows the development of the equipage of households with consumer goods between 1989 and 2015. We can see a growth in numbers for all of the featured goods during the observed period. The growth of the number of goods in Czech households helps to approximate the overall growth of equipage of households with consumer goods. Basically, anything can be shared in sharing economy. The growth of equipage means that there are goods to be shared.

The growth of equipage of households with consumer goods since the 1989 revolution is significant. The average living space per person grew by 50 %. The average number of rooms grew by 23 %. Other goods also experienced growth. The number of passenger cars per 100 households grew by 41 %, the number of automatic washing machines by 65 %, the number of color television by 138 %.

## Discussion

### Platform inception

Sharing platforms capitalize these and other circumstances. They primarily benefit from the network effect that causes that the more users a platform has, the faster the number of its users grows. Platforms are also continuously cultivated and perfected by the users themselves, which creates a continual innovation environment, which in the end

significantly lowers barriers of entering markets and makes it easier to function within it. Traditional branches enable expansion of sharing platforms by leaving various market holes that can be filled or used for expansion into other market sectors. Key benefits of sharing platforms will be more closely described in the following chapter.

Thanks to the previously mentioned factors, we can nowadays share almost anything, and it is only a matter of time and demand development in society when other economic goods will be shared. These could e.g. be:

- sharing leftover food,
- sharing parking spaces that are otherwise not used during the day,
- swapping living spaces for a certain period of time,
- sharing basically anything on borrowing platforms,
- sharing camping room on property,
- tandems for foreign languages,
- grocery shopping delivery – one person goes grocery shopping and shops for his/her neighbors,
- looking after or walking pets,
- purchasing economic goods as a group because they are not needed for one individual.

These are by far not all sharing options. The list serves only as an overview of what sharing is considered to be.

### **Sharing economy and societal consumption function**

A phenomenon such as sharing economy is expected to have a significant influence on and meaning for economy. This chapter formulates the main principles of how sharing economy functions. The chapter also sketches out its main benefits and challenges. The meaning for economy is then described in the form of key opportunities and main threats of this new model.

Main benefits and pluses of the sharing economy ecosystem are according to the expert society (Ernst & Young 2015), (Government of the Czech Republic 2017), (Kasparovicz et al. 2016) the following:

- Expands the offer of goods,
- Makes it easier to access economic goods,
- Lowers prices and increases effectiveness of preference satisfaction,
- Ensures effective functioning of self-regulations of the ecosystem.

Some of the main challenges of the sharing economy ecosystem are:

- Upkeeping the security and protection standards,
- Eliminate the avoidance of tax liability,
- Ensuring equal conditions to all market subjects.

## **Benefits and pluses of the sharing economy ecosystem**

This chapter discusses more in detail the benefits and pluses of sharing economy.

### *Expands the offer of goods*

The influence on expanding the offer of goods and services of sharing economy is evident. According to the study by European Parliamentary Research Service (Goudin), the rate of unused passenger cars in the EU is around 60 to 90 % and the rate of unused living capacity around 1-5 %. It is therefore possible to long- or short-term share these capacities and thusly expanding the market supply. Sharing motivation exists on both sides of the market – providers and users. Two of the most important motivations are covering a part of the costs (including sunk costs) for the providers, and lower prices for the users. An integral part of these transactions is also the social aspect, primarily being closer to the local way of life in visited destinations – which is sometimes more important for some travelers than the actual price.

### *Makes it easier to access economic goods*

Thanks to a hospitable environment of the individual platforms, it is much easier to enter the market – for both providers and users. Goods and services are easily and clearly listed on online platforms that everyone with an internet connection can access. They are all in the same space and the filter functions make it easier to compare offers, which has a positive effect on competitiveness. Thanks to a platform, providers have a simplified payment system, demand organization, marketing, etc. according to the platform they use.

### *Lowers prices and increases effectiveness of preference satisfaction*

The above-mentioned service expansion and easier access also lowers transaction costs for all market participants. It also increases competition on the market which according to the neo-classical economic theory lowers prices. Lowering of prices and market barriers in combination with increased offer attracts new customers and, in many cases, even creates completely new customer segments. The same goes for financial services – primarily crowdfunding, which helps to gather resources not only for new organizations and start-ups but also for established entrepreneurs (e.g. music bands or writers).

### *Ensures effective functioning of self-regulations of the ecosystem*

Sharing economy platforms are co-created by their participants. It is therefore no surprise that certain practices and unwritten rules are formed that help securing a smooth run of interactions within the ecosystem. The platforms then adapt these practices into their official procedure, such as a rating system (e.g. Airbnb, Uber). Ratings of individual users and providers can signal to other participants if a subject is trustworthy and reliable. Individual participants therefore follow the rules and provide high-quality services since

negative ratings can significantly endanger their position on the market (Cohen and Kietzmann 2014). Self-regulation or private regulation has many benefits in comparison to global or public regulation (Chovanculiak 2016):

- Strong motivation of platforms to provide high-quality and effective regulation since they are the ones effected by it the most. In comparison to public administration regulations,
- Competition between individual private regulation systems that creates a competitive advantage for the good and effective ones,
- Lowering of transaction costs by using the reputation system that motivates participants to act professionally and warns about the ones who do not.

Self-regulation in its current form of course cannot fully replace global regulation from public institutions and does not strive to do so. It strives to increase reliability and improve user experiences that can have an overall positive effect on the entire platform.

### **Challenges of the sharing economy ecosystem**

At the start of the chapter, we introduced the main challenges, threats, and cons of the sharing economy ecosystem. This part will inspect them in more detail.

#### *Upkeeping the security and protection standards*

Not upkeeping certain obligations of traditional branches by the platforms of sharing economy can significantly endanger the security and disrupt the current framework of citizen protection (Czech Chamber of Commerce 2018), primarily in the following areas.

- consumer protection – not upkeeping established norms and rules disrupts its established level,
- agreements on employment - not upkeeping established norms and rules disrupts its established level of protection,
- general safety.

#### *Eliminate the avoidance of tax liability*

Another challenge is limiting tax liability avoidance if established rules are bypassed. Tax liability is not consistently enforced according to a study by the Office of the Government of the Czech Republic (Government of the Czech Republic 2017), which causes the decrease of the volume of collected resources to the state budget.

#### *Ensuring equal conditions to all market subjects*

Unequal conditions on the market are partially connected to the topic of taxes. If one group of service providers does pay taxes and the other goes not, unequal conditions arise. The tax paying group has higher expenses and has a competitive disadvantage. The same principle also goes for not abiding by other conditions defined by the state. If one

group abides by them and the other does not, the first group is in disadvantage to the second group.

## **Conclusions**

The importance of sharing economy cannot be easily separated because it is connection with many other branches. It initiates a number of intentional or unintentional consequences. These consequences can have positive and negative impacts on the entire society. In its “The rise of the sharing economy,” the consultancy firm Ernst and Young (Ernst & Young 2015) tries to define the area that sharing economy affects positively.

### **More effective use of resources**

More effective allocation of resources is beneficial for the entire society and increases the performance of entire economy. This benefits individuals regardless if they participate in sharing economy or not. When it comes to transportation, it enables more effective planning of trips; in housing, it helps to lower costs for small hotels as well who can advertise and increase their bookings. Cost effectiveness is also connected to the functioning of the platforms that are not as financially demanding as some traditional competitors.

### **Supporting social mobility and creating jobs**

The topic of social mobility is closely connected to effective use of resources. Due to lowering of prices, even small companies and entrepreneurs can participate in the market mechanism. New earnings opportunities benefit all subjects on the market, mostly low-income people otherwise excluded from the market – entrepreneurs because of prohibitive entry barriers or users because of prohibitive high prices.

Thanks to low entry barriers in contrast to many traditional branches, work can be started immediately. This is beneficial to people looking to earn some extra money or to people who are “between two jobs” – they end one long-term employment and before they start another one, they stay economically active via sharing services or other resources.

### **Environment**

Thanks to more effective use of resources, the environment is positively impacted in many ways. A certain goal can be thusly achieved by using less resources (gas, metal, etc.). Lower prices can also create a “pillow” for using resources in a more economical way towards the environment (renewable energy sources, etc.) that would usually be unthinkable due to the prices. An interesting example is the result of a study conducted by the Berkeley University (Shaheen and Chan 2015) that focused on the impacts of sharing economy on transportation. According to their calculations, one shared car can replace 9-13 standard cars. Thanks to a more effective connecting of supply and demand in transportation, there is a significant decrease in emissions of greenhouse gases and driven kilometers by up to 40 %.

On the other hand, it is important to remember that sharing economy can have negative effects such as market distortion which lowers its allocation effectiveness and thereby also the prosperity of society. A certain risk is also a disruption of legal security, which is affected primarily by a lack of a legislative-regulation framework that would state which rules must be followed and which not. This fact can also cause a negative attitude of society towards sharing economy that could reflect in pressuring public institutions to generally regulate, something which would not help either subjects.

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# **A Comparison of the Systems of Remuneration in the Educational Sectors of the Czech Republic, Belgium and Germany**

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## **Abstract**

Education and the organisation thereof is the most important factor influencing the competitiveness of an economy, the wealth of a society and quality of life, as is evidenced by those developed countries with higher numbers of educated people. One of the key factors in determining the quality of an education system is the remuneration of the individuals working in it. A sectoral analysis was therefore conducted on the basis of research into the systems of remuneration in the education sectors of three countries, namely the Czech Republic, Belgium and Germany. The purpose was to compare the results and indicate a space for further research.

## **Key words:**

Educational sectors, wage, systems of remuneration, Czech Republic, Germany, Belgium.

## **Introduction**

The efficacy of education has become one of the main topics of socio-scientific research, including economics (Ferguson 1991; Leigh 2009; Stinebrickner 2001; Stinebrickner 1999). Education is understood to be a public good that should be available to everyone and in an appropriate quality. The problem is how to define and execute such quality. There are a number of key indicators, of which one is the salary attached to teaching positions. Salaries are not only a measurable indicator of prestige and importance, but also provide motivation to future applicants and teachers (Hanushek, Kain and Rivkin 1999; Hendricks 2015; Imaseki 2015; Figlio 1997; Derkachev 2015; Ballou and Podgursky 1995). The fundamental questions here are – Can we appropriately appraise the high expectations connected to the educational process (Carnoy et al. 2009; Loeb and

Page 2000)? And, what is the situation like in the Czech Republic in comparison to other EU countries (Boarini and Lüdemann 2009; Woesmann 2011; Wolter and Denzler 2003)?

In 2015/16 teachers' salaries increased in 24 countries and in another 16 countries remained the same as the year before (Eurydice 2016). Over the last seven years, minimum statutory salaries have increased or remained at the same level in most European countries. The increase was higher than 15% in the German-speaking communities of Belgium, and in Bulgaria, the Czech Republic, Estonia, Lithuania, Hungary (secondary education), Slovakia and Sweden (upper secondary education). However, they were below 2009 levels in Malta, Slovenia, Finland, the United Kingdom and Iceland (with exception to upper secondary education), and significantly lower in Ireland and Greece (Eurydice 2016).

The levels of remuneration in the education sectors of three countries, namely the Czech Republic, Belgium and Germany, were selected for further analysis. A general overview was prepared and a subsequent analysis conducted of the individual countries. The results form the basis for the conclusions.

## Results

### Remuneration in education sectors

Almost all European countries offer salary allowances and complementary payments to teachers. In almost all countries the central/regional authority responsible for education sets the levels of teachers' basic statutory salaries in public schools. However, in some countries, local authorities and schools have the autonomy to decide on certain allowances. The most common allowances are for 'additional responsibilities' and 'overtime'. Salaries in private government-dependent schools generally follow the rules applied in the public sector. Private independent schools often set their own salaries in accordance with national labour legislation/codes of practice (Eurydice 2016; Figlio 1997; Hanushek, Kain and Rivkin 1999).

In 2015/16 there was an increase in teachers' statutory salaries<sup>1</sup> in the majority of European countries, with the level staying the same as that in 2014/2015 in the others. Salaries did not decrease in any country (Eurydice 2016). This trend was due to general salary adjustments for all public sector employees and the reform of teachers' salaries in three countries. In the Czech Republic, the salary rates of public sector employees, including education and non-education staff in schools, were increased by 3% in November 2015, whereby the increase was higher for teachers with longer experience (Eurydice 2016).

In Austria, the education reforms of 2013, which came into effect in September 2015,

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<sup>1</sup>The basic statutory salary is a component of the total remuneration teachers receive for their work. It refers to the amount that a fully qualified teacher is paid depending on the length of their professional experience and/or age. It does not include salary allowances or other financial benefits and takes no account of taxes and social security contributions. (Eurydice, 2016).

included higher starting salaries and a new salary progression scheme (Eurydice, 2016). In the UK, there was a 1% pay rise, which reflected the government's average 1% pay rise policy for the entire public sector. In addition, the maximum limit of the main pay range was increased by 2% so as to reinforce the attractiveness of the teaching profession in the early career stages (Eurydice 2016).

Picture1: Changes between 2014/15 and 2015/16 in teachers' statutory salaries in public schools



Source: Eurydice 2016

As a result of the economic crisis, governments in some European countries implemented pay cuts or freezes for public sector employees as a means by which to reduce budget deficits. In more recent years, the wage freezes in many of these countries were lifted and salaries adjusted to meet the cost of living. Some countries also passed reforms,

thereby increasing teachers' salaries. This was done in order to make the profession more attractive, to ensure the high quality of the teaching force and to improve the quality of education (Imaseki 2015; Derkachev 2015). However, the situation remained frozen in some countries, like Italy, Cyprus and Liechtenstein.

In order to reduce the public deficit, the Italian government froze salaries in 2010, initially up to 2013. However, the measure has been extended every year since then. In Liechtenstein, salary increases, which are subject to parliamentary decisions as part of the overall state budgetary process, have not been awarded since 2010 as a result of the economic crisis and the public deficit. In Cyprus, the government is aiming to reduce expenditures with a view to balancing the budget (Eurydice 2016).

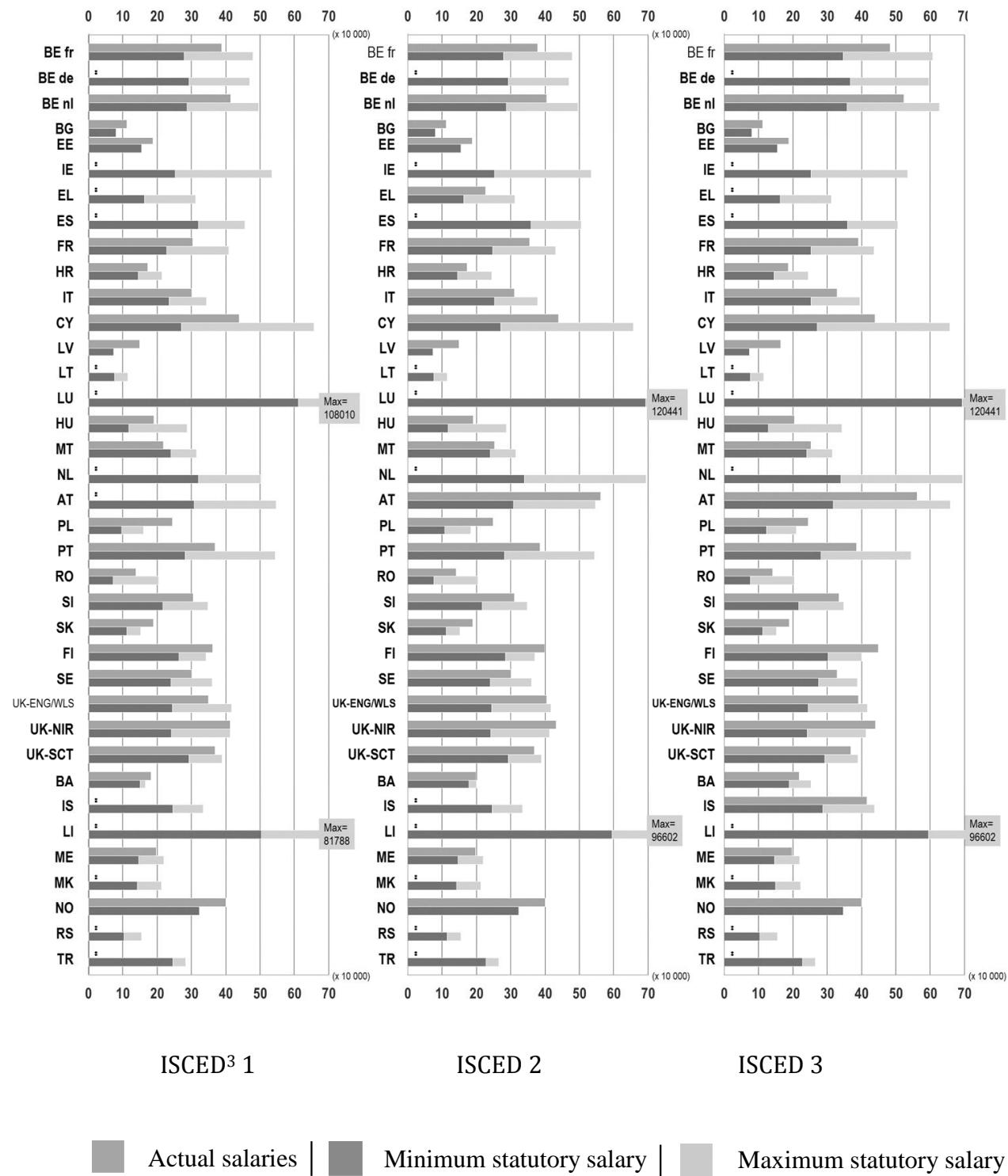
The minimum and maximum statutory salary levels is a key point in attracting and retaining high-quality teachers. High starting salaries may attract young people to the profession, but if teachers need many years in service to get relatively low pay increases, this might have a detrimental effect, i.e. teachers may leave the profession (Stinebrickner 1998; Stinebrickner 2001).

Statutory salaries vary substantially between European countries. In most of them, both the minimum and maximum statutory salaries increase according to the educational level. In primary education, the minimum statutory salary ranges from 6,974 to 61,138 PPS (Purchasing Power Standards<sup>2</sup>), and up to 69,289 PPS at secondary level. The maximum statutory salary varies from 11,553 to 108,010 PPS in primary education, whereas in secondary education, it can reach 120,441 PPS (Eurydice 2016).

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<sup>2</sup>The Purchasing Power Standard (PPS) is an artificial currency unit. Theoretically, one PPS can buy the same amount of goods and services in each country. However, price differences across borders mean that different amounts of national currency units are needed for the same goods and services depending on the country. PPS are derived by dividing any economic aggregate of a country in national currency by its respective purchasing power parities. *Source: Eurostat.*

Figure 1: Minimum and maximum statutory salaries and actual salaries of teachers (in PPS) in primary and secondary schools in 2015/16



Source: Eurydice 2016

<sup>3</sup>The International Standard Classification of Education (ISCED) is a statistical framework for organising information on education maintained by the United Nations Educational, Scientific and Cultural Organisation (UNESCO).

Table 1: Percentage change between minimum and maximum statutory salaries according to ISCED level and the number of years in service necessary to achieve this increase<sup>4</sup>

(%)	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT
ISCED 1	72.3	60.2	72.7	:	31.8	18.4	33.2	:	111.3	90.3	41.7	79.9	47.8	47.0	143.3	:	52.5	76.7	145.0	30.6
ISCED 2	72.3	60.2	72.7	:	31.8	18.4	31.8	:	111.3	90.3	40.9	73.9	68.7	49.7	143.3	:	52.5	73.8	145.0	30.6
ISCED 3	75.2	62.2	75.2	:	31.8	30.0	45.2	:	111.3	90.3	40.9	72.7	68.7	56.5	143.3	:	52.5	73.8	165.0	30.6
<b>Number of years</b>	27 (25)	27 (25)	27 (25)	:	32	12 (7)	:	:	22	36	39	29	35	35	22	10	15	25	42	16
(%)	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK-(1)	UK-NIR	UK-SCT	BA	IS	LI	ME	MK	NO	RS	TR
ISCED 1	56.9	77.4	66.9	93.0	182.5	60.0	35.4	30.1	50.0	70.3	70.3	33.0	10.2	36.2	62.3	49.8	48.8	:	49.7	15.2
ISCED 2	104.3	77.4	68.9	93.0	165.7	60.0	35.4	30.1	50.0	70.3	70.3	33.0	12.0	36.2	62.3	49.8	48.8	:	35.0	16.3
ISCED 3	104.3	107.7	71.0	93.0	165.7	60.0	35.4	32.4	41.1	70.3	70.3	33.0	33.4	52.1	62.3	49.8	49.0	:	49.7	16.3
<b>Number of years</b>	15 (12)	34	20	34	40	25	32	20	:	:	10	6	35	:	:	40	40	16	38	27

Source: Eurydice 2016

The actual salaries (in the indicated education sectors) are closer to the maximum than to the minimum statutory salary in the following 11 countries or regions: the French Community of Belgium (primary and upper secondary education), the Flemish Community of Belgium, the Czech Republic, France (secondary education), Italy (primary and upper secondary education), Austria (upper secondary education) and Montenegro. In another five education systems, actual salaries are even higher than the maximum statutory salary (Denmark, Poland, Slovakia, Finland and the United Kingdom (Northern Ireland)).

Teachers often receive additional allowances and financial benefits. The decision on allowances, criteria and methods of calculation can be taken at central, local and school levels or be a shared responsibility (Leigh, 2009; Stinebrickner, 1999). Allowances include:

- further formal qualifications;
- continuing professional development qualifications;

<sup>4</sup> EU: European Union; BE Belgium; BE fr Belgium – French Community; BE de Belgium – German-speaking Community; Be nl Belgium – Flemish Community; BG Bulgaria; CZ Czech Republic; DK Denmark; DE Germany; EE Estonia; IE Ireland; EL Greece; ES Spain; FR France; HR Croatia; IT Italy; CY Cyprus; LV Latvia; LT Lithuania; LU Luxembourg; HU Hungary; MT Malta; NL Netherlands; AT Austria; PL Poland; PT Portugal; RO Romania; SI Slovenia; SK Slovakia; FI Finland; SE Sweden; UK United Kingdom; UK-ENG England; UK-WLS Wales; UK-NIR Northern Island; UK-SCT Scotland; BA Bosnia and Herzegovina; IS Iceland; LI Liechtenstein; ME Montenegro; MK Former Yugoslav Republic of Macedonia; NO Norway; RS Serbia; TR Turkey. The values in national currencies have been converted into PPS using the purchasing power parities (PPPs) for 2015.

- additional responsibilities;
- participating in extracurricular activities;
- overtime;
- teaching in challenging circumstances;
- teaching in remote or expensive geographical areas;
- positive teaching performance.

Private government-dependent schools receive the majority of their funding from public authorities and are usually subject to the same rules and regulations as public schools. In almost one third of the European countries, salary arrangements for teachers and school heads in these schools are based on the same calculation methods and basic statutory salary references as in the public sector (Belgium, Germany, Estonia, Spain, France, Cyprus, Lithuania, the Netherlands, Austria, Portugal, the United Kingdom (Scotland), Norway and Serbia). Nevertheless, private independent schools in these countries are free to adopt different salary policies.

### **Primary, secondary schools and higher education - a comparison between countries**

#### *Belgium (French Community)*

Teachers' basic statutory salaries are defined for public and private government-dependent schools using the same methods. Private independent schools determine their basic statutory salaries themselves.

Table 2: Monthly gross salaries of full-time fully qualified teachers in public schools

	<b>Basic statutory salary</b>		<b>Average actual salary</b>
	Minimum (EUR)	Maximum (EUR)	EUR
Pre-Primary	2,511	4,327	3,540
Primary	2,511	4,327	3,500
Lower Secondary	2,511	4,327	3,415
Upper Secondary	3,124	5,474	4,358

Source: Eurydice 2016

The average number of years that a reference teacher must complete to obtain the maximum basic statutory salary is 27 years for pre-primary, primary and lower secondary education and 25 years for upper secondary education.

The basic statutory salaries of school heads' are defined for public and private government-dependent schools using the same methods. Private independent schools determine their basic statutory salaries themselves (Eurydice 2016).

In academia, salaries follow seniority scales and salary brackets are fixed by decree. The number of years at work to get the end-of-career salary varies depending on the position: 24 years for a lecturer, 18 years for a professor and 15 years for a full professor (European University Institute).

Table 3: Monthly gross salary in Euro per month for tenured academic positions

Seniority	0	6	12	Max
Lecturer	4,249	4,857	5,464	6,679
Professor	4,976	5,851	6,725	7,599
Full Professor	5,574	6,752	-	8,519

Source: European University Institute; Université Catholique de Louvain

#### *Belgium (Flemish Community)*

In the Flemish Community of Belgium, the teachers' statutory salaries are also defined for public and private government-dependent schools using the same methods, and, once again, private independent schools determine their basic statutory salaries themselves.

Table 4: Monthly gross salaries of full-time fully qualified teachers in public schools

	Basic statutory salary		Average actual salary
	Minimum (EUR)	Maximum (EUR)	EUR
Pre-Primary	2,588	4,470	3,696
Primary	2,588	4,470	3,737
Lower Secondary	2,588	4,470	3,643
Upper Secondary	3,229	5,655	4,716

Source: Eurydice 2016

The average number of years that a reference teacher must complete to obtain the maximum basic statutory salary is 27 years for pre-primary, primary and lower secondary education and 25 years for upper secondary education.

In academia, salaries depend on grants and seniority. A salary scale consists of a minimum and a maximum salary, with several intermediary steps, which mark periodic salary increases. The salary scales of independent and assistant academic staff are laid down by the Flemish Government. In addition to their monthly salary, all staff are entitled to holiday pay and an end-of-year bonus (European University Institute, Belgium – Flemish Community).

Table 5: Monthly gross salary in Euro per month for tenured academic positions

	<b>Start</b>	<b>Average</b>	<b>Max</b>
Doctor-Assistant	3,600	4,494-4,654	5,611
Lecturer ( <i>Docent</i> )	3,704	4,582	5,460
Senior Lecturer ( <i>Hoofddocent</i> )	4,242	5,453	6,664
Professor ( <i>Hoogleraar</i> )	4,967	6,274	7,581
Full Professor ( <i>Gewoon hoogleraar</i> )	5,563	6,737	8,498

Source: European University Institute; Academic Service KU Leuven

### Czech Republic

The average number of years that a reference teacher must complete to obtain the maximum basic statutory salary is 32 years. In November 2015, an additional level was added to the salary scale for teachers with more than 32 years professional experience. Previously, teachers had to work 27 years in the profession to obtain maximum basic statutory salary (Eurydice, 2016). Teachers' salaries in private schools are contractually determined. However, they are regulated by the Labour Code and the minimum level of pay defined by Government is guaranteed.

Table 6: Monthly gross salaries of full-time fully qualified teachers in public schools

	<b>Basic statutory salary</b>		<b>Average actual salary</b>
	Minimum (CZK/EUR)	Maximum (CZK/EUR)	CZK/EUR
Pre-Primary	16,375/600	25,058/918	22,941/841
Primary	21,000/770	27,675/1,014	27,071/992
Lower Secondary	21,000/770	27,675/1,014	27,036/991
Upper Secondary	21,000/770	27,675/1,014	28,310/1,038

Source: Eurydice 2016

Since 1 November 2015, the salary tariffs of employees in services and administration, including the education and non-education staff at schools, were increased by 3%. In this way, the Government achieved the goal set out in its Policy Statement. With regards to the modification of the teachers' salary scales – the salary increase was higher for those teachers with longer experience (Eurydice 2016).

In the Czech Republic, both academic and non-academic institutions provide higher education, but only the former offer Masters and Doctoral programmes. Most higher

education institutions are public and funded by the state through the Ministry of Education, Youth and Sports. There are also 14 private institutions, which are partly state-funded. The Accreditation Commission is responsible for the accreditation and assessment of programmes at all higher education institutions (European University Institute).

The organisation of Czech academia is rooted in the German/Austrian higher education system. The first position a PhD graduate is appointed to is that of Assistant Professor (there is also a lower rank of Assistant). The major career step is habilitation, through which a candidate obtains their *venia legendi* or “permission to lecture” in a certain field and permission to supervise PhD students in that field.

To become an Associate Professor (or Docent), a candidate must undergo a process of habilitation. In the request for commencing the habilitation process, a candidate must prove their publishing record and teaching experience. The candidate must also present and publicly defend a thesis. Those candidates who obtain an absolute majority of the votes from the habilitation committee are appointed to the position of Associate Professor by the rector of the university.

The highest position in the structure of scholars in academia is a (full) professorship. A candidate who has obtained their habilitation may request the commencement of the procedure for professorship. They must submit recommendations from at least two professors from the same area of expertise. The candidate must give a presentation to the scientific board, which then votes by absolute majority. The consent of the scientific board is submitted to the Minister of Education for a final decision. The candidate is then formally appointed a professor by the President of the Czech Republic (European University Institute).

Table 7: Monthly gross salary in CZK and Euro per month for tenured academic positions

	<b>Start</b>	<b>Average</b>	<b>Max</b>
PhD Candidate	5,783/226	9,186/359	12,590/492
Postdoc	17,272/675	20,291/793	23,336/912
Assistant Professor	21,008/821	24,489/957	27,994/1,094
Associate Professor	25,204/985	29,401/1,149	33,598/1,313
Full Professor	29,862/1,167	34,980/1,367	40,123/1,568

Source: Internal salary regulation of Charles University in Prague

Each university sets its salaries individually according to its internal salary regulation. Charles University, the oldest, biggest, and still the most respected university in the Czech Republic, serves as a model for other universities and higher education institutions.

In general, the Charles University internal salary regulation allows the university and its employees to freely negotiate on the level of salary, although this is extremely rare. Instead, the salary is determined after the employment contract is signed according to a

tariff. Employees are divided into two groups – academics and researchers – according to whether the primary objective of their employment is teaching or research. The stipend for PhD candidates is determined under a separate regulation, as they are not employees, but students. PhD programs are studies in two forms – external (without stipend, the most common) and combined (with stipend and obligations such as teaching, conference organising, etc.). The PhD stipend is not subject to tax, which means that in the table above, the PhD “salary” is net income.

In addition to the basic salaries indicated in the table, an employee may receive additional repeated payments for management tasks (dean, vice-dean, chair, director of study programme, etc.) and a bonus or one-off payment (e.g. for PhD supervision, membership in a PhD defence committee, opponent on a habilitation committee, etc.). Although these payments vary, on average they do not exceed EUR 500 a month.

### *Germany*

Table 8: Monthly gross salaries of full-time fully qualified teachers in public schools

	<b>Basic statutory salary</b>		<b>Average actual salary</b>
	Minimum (EUR)	Maximum (EUR)	EUR
Pre-Primary	:	:	:
Primary	3,738	4,978	:
Lower Secondary	4,204	5,542	:
Upper Secondary	4,230	6,142	:

Source: Eurydice 2016

In Germany, salaries are determined through national legislation. Their progression is not determined by seniority rules, but regulated through a system of bonuses that rewards the completion of administrative tasks and successful research and teaching (European University Institute, Academic Careers Observatory, Germany).

Table 9: Gross monthly salary in Euro per month for tenured academic positions

	<b>Eastern Provinces</b>	<b>Western Provinces</b>
PhD Candidate	:	:
Postdoc	:	:
Junior Professor	3,150	3,405
Associate Professor	3,598	3,890
Full Professor	4,369	4,723

Source: Deutscher Hochschulverband; Academics.de

The German system is usually classified as “continental European” and it is affected by the federal organisation of the state. The education policies of the respective federal states

(Bundesländer) can differ. Even though a framework exists for coordinating the respective education policies, the legislative prescriptions and the organisation of educational content is very heterogeneous.

With only a few exceptions, the universities in Germany are state institutions. Because of the federal structure of Germany, universities are controlled and financed by the respective Ministry of Education. The relationship between the ministries of the federal states and the universities is regulated by the different Acts on Higher Education of each federal state, which in turn are determined and coordinated by the Framework Act on Higher Education (Hochschulrahmengesetz), which applies to all the federal states (European University Institute).

## **Conclusion**

Without any doubt, today's successful economies are knowledge economies (Ferguson 1991). The pressure on skills and the ability to use knowledge in real life creates the basic conditions for competitiveness in an increasingly globalised world. That is why education sectors – as incubators for developing comprehensive skills and knowledge – will play an even more important role in our lives. In converging economies, like that of the Czech Republic, it will be even more important, which is why this needs to be reflected in the system of earnings in the education sector. The conditions should be such that the best teachers and experts are motivated to come and share their skills with students, who in turn become more and more competitive (Hanushek, Kain and Rivkin 1999; Boyd et al. 2006).

In the overview presented in this article, we compare the systems of remuneration in the education sectors of the Czech Republic, Belgium and Germany. The absolute and relative numbers clearly show that the remuneration levels in Belgium and Germany are very similar, but that in the Czech Republic they are significantly lower for all education grades. These differences are in some respects even bigger when compared to the average or median wages in other sectors of the economy. From this perspective, we can conclude that the Czech educational sector is still waiting for the impulse that will drive the whole system to a higher level (Ballou and Podgursky 1995).

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## Conference Review

### **“Fórum SMART CITY – kritická reflexe“ [“SMART CITY Forum – Critical Reflection”]**

František Stellner

Institute of Technology and Business in České Budějovice

On December 6, 2017, the discussion “SMART CITY forum – critical reflection” took place on the UJEP campus as a part of the project “Rozvoj výzkumných týmů SMART a MATEQ podpořených z dotace Ústeckého kraje” [“Development of research teams SMART and MATEQ funded by the Ústí nad Labem Region”]. Representatives of UJEP (Jan Evangelista Purkyně University in Ústí nad Labem), CTU (Czech Technical University in Prague), ITB (The Institute of Technology and Business in České Budějovice), the Ústí nad Labem Region, Czech Smart City Cluster and the private sector attended as well as other experts and the representatives of the public administration from Prague, or Děčín.

In the introductory block, profiles of the UJEP research teams of the research areas SMART and MATEQ were introduced. The initiator of the project and its main researcher, professor Jiřina Jílková (Faculty of Social and Economic Studies UJEP) introduced the team as well as the objectives of the projects of the SMART research area.

Professor Pavla Čapková (Faculty of Science UJEP) presented the development in the MATEQ [Materials and technologies for the environment and the quality of life] area to the attendees. She focused on technologies and nanomaterials researched by teams of scientists at UJEP and other institutions.

Pavel Janoš (Faculty of Environmental Science UJEP) presented the COMNID project that is aimed at commercializing the results of applied research of new technologies and services. The former Minister of the Environment of the Czech Republic and the adviser to the current minister, Petr Kalaš, also joined the subsequent discussion and highlighted the grants of the ministry in the areas of the environment and the quality of life in the region. Jozef Regec, the executive director of the Czech Smart City Cluster, spoke about “CSCC – Concepts 2018” and introduced the participants of the forum to the activities of his organization.

The second block called “Kritická reflexe aplikací SMART” [“Critical reflection of SMART applications”], the economist Aleš Rod (Faculty of Social and Economic Studies UJEP) presented a very interesting entry “(Un)successful attempts at e-Government”. He primarily spoke about Estonia’s experience with e-Government and recommended its approach to all former Eastern Bloc countries. Pavel Juřík (Paynovation, a.s.) spoke about the possibilities of “cheap” usage of electronic cards; Vojtěch Zíka (Faculty of Social and Economic Studies UJEP) described the development of one of the economic fields in his entry called “Behavioral economy and public administration”.

During the afternoon block “Doprava – kritická reflexe domácích i zahraničních zkušeností” [“Transport – critical reflection of domestic and foreign experiences”], Jindřich Franěk (Ústí nad Labem Region) explored the transport in the Ústí nad Labem Region, its current situation, and outlook in the future. His entry was followed by Hana Brůhová (Faculty of Social and Economic Studies UJEP) with her analysis of the Smart City concept in strategic decision-making of municipalities in the area of transport. Václav Gráf (CETA, z. ú.) who is an expert on sharing economy presented his entry called “The world of sharing economy – new Smart City opportunities”. Based on the example of the Airbnb enterprise, he very interestingly demonstrated the development of sharing economy. Vojtěch Stehel (The Institute of Technology and Business in České Budějovice) and Marek Vokoun (The Institute of Technology and Business in České Budějovice) also joined the discussion.

Research conducted by the Výzkumný atlas Ústckého kraje [Research Atlas of the Usti Region] was also presented to the attendees. This research was developed in cooperation with UJEP and the Inovační centrum Ústeckého kraje [Innovation center of the Ústí nad Labem Region].

The attendees of the “Fórum SMART CITY – kritická reflexe” [“SMART CITY Forum – critical reflection”] were successfully introduced to the development of key activities and focused on networking between the representatives of universities, the public administration, and the private sector. In the discussions, they focused on issued that hinder the implementation of smart solutions.

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## **Conference Review**

### **“Ekonomika podnikání – teorie a praxe” [Business Economy – Theory and Practice]**

The specialist conference “Ekonomika podnikání – teorie a praxe” [Business Economy – Theory and Practice] took place on Friday, February 23, 2018, at the Czech Institute of Informatics, Robotics, and Cybernetics at the Czech Technical University in Prague. The conference was organized by the Institute of Human Resources of the MIAS School of Business at the Czech Technical University in Prague and by the Humanities Department at the Faculty of Corporate Strategy at the Institute of Technology and Business in České Budějovice.

The introductory words of the organizers Prof. Ing. Zuzana Dvořáková, CSc. and Doc. PhDr. František Stellner, Ph.D. were followed by the first section of the conference. Prof. Ing. Zuzana Dvořáková, CSc. (Institute of Human Resources of the MIAS School of Business at the Czech Technical University in Prague) presented her entry “Quality of working lives of employees over 50”. Adriana Dergam (Vodafone Czech Republic a.s.) talked about “Sustainable Business (What is and what is not possible)?” She focused on the Vodafone Czech Republic Foundation and stressed the fast development in the area of the Internet of things and the need for digital economy education. Šárka Fričová, MBA, DBA (BeeMedia, s.r.o.) talked about “Employment or unemployment – theory vs. practice”. She focused on current trends in employment of top managers. Some of the current benefit demands are f.e. personal coaching or housing benefits. Ing. Aleš Gothard (Metrostav a.s.) talked about “The Experiences of the Czech Construction Leader with Projects Abroad”. He introduced the process of gradually winning the markets in Scandinavia. Doc. Ing. Jan Vlachý, Ph.D. (MIAS School of Business at the Czech Technical University in Prague) presented his entry called “Competences and human capital as a part of the value of an enterprise”.

In the second section, Ing. Josef Kroulík (Budějovický Budvar, n.p.) talked about “Fundamental Tools of Management and Their Application in Practice”. After a communication exercise, he focused on the approach to hiring new employees in his company. Ing. Václav Gráf (Airbnb) spoke about a very interesting topic – “The Specifics of the Management Practice in Data Driven Enterprises in the Field of Electronic Platforms of Sharing Economy”. He analyzed the current trends in the field; based on his own experiences, he defined the fields that university students should focus on to have an easier start on the labor market. He spoke primarily about the ability to process Big Data and being able to draw conclusions from the data that can generate more value added for

the enterprise. Ing. Marek Vokoun, Ph.D. (Humanities Department at the Faculty of Corporate Strategy at the Institute of Technology and Business in České Budějovice) had an inspiring presentation called "Innovation Economy and Business Economy". He focused on teaching methods that use information and communication technologies and can activate students. Doc. PhDr. Alena Kajanová, Ph.D. (Humanities Department at the Faculty of Corporate Strategy at the Institute of Technology and Business in České Budějovice) spoke about "How Valid Are Currently the Results of Major Psychological Research?" She spoke about psychology being in crisis and about contradictory research. Ph.Dr. Radek Soběhart, Ph.D. (Humanities Department at the Faculty of Corporate Strategy at the Institute of Technology and Business in České Budějovice) spoke about "RIA and its Importance for Competitiveness". He introduced current approaches to behavioral economy applied in economic policy.

The third section of the conference included a presentation by Mgr. Zdeněk Caha, MBA, Ph.D. (Faculty of Corporate Strategy at the Institute of Technology and Business in České Budějovice) on the topic of "Ethical Codex and Corporate Management". He spoke about ethical codices and their development in the Czech Republic and in the Ukraine. Ing. Ondřej Váňa (PwC) spoke about "Management Theories and Practice in Audit Companies". Based on his own experience, he commented on the knowledge of university graduates after being hired by their first company. Ing. Jakub Hudec (Central Bohemian Innovation Centre) spoke about "Supporting the Entrepreneurial Spirit and Selected Tools" and introduced key tools for supporting start-up projects, which he compared to solutions funded by private and public sources. Ing. Lourdes Gabriela Daza Aramayo, Ph.D. (Center of Latin American Studies at the Faculty of International Relations of the University of Economics, Prague) focused on the topic of "Business Barriers in Latin American". She compared 33 Latin American countries and assessed the benefits of the specialized program aimed at business relations between Europe and Latin America. Mgr. Radka Lankašová (Mediace Coaching) spoke about "Mediation as a Tool to Successful Projects" and presented several practical examples from her own experiences. In the final section of the conference, Doc. PhDr. František Stellner, Ph.D. (Humanities Department at the Faculty at the Faculty of Corporate Strategy at the Institute of Technology and Business in České Budějovice) spoke about "Humanities and Business Economy". In the conclusion of his presentation, he introduced a vision of a new study program focused on the issue of digital economy and big data analyses. Mgr. Ing. Pavol Minárik, Ph.D. (CEVRO Institute School of Political Studies) spoke about "The Role of Universities on the Labor Market". He focused on the question if successfully graduating from a university is connected to a specific value of skills and knowledge of the graduates. He questioned if universities should be an indicator valid on the labor market and thought about the question of meaningfulness of the current university education system for employers who often perceive university diplomas only as a formal prerequisite for hiring. Ing. Iveta Kmecová, Ph.D. (Humanities Department at the Faculty at the Faculty of Corporate Strategy at the Institute of Technology and Business in České Budějovice) spoke about "Trends in Teaching of the Business Economy Subject" and evaluated that the current teaching styles

at Czech universities is traditional meaning without major implementation of modern teaching methods.

There was a lively discussion during all segments of the conference. Livie Stellnerová, BA (University of Vienna) for example focused on the participation of women in business and concrete means of supporting them. Other participants focused on current trends in economy in Czech enterprises and spoke primarily about innovations, new management fields, human resources management, change and project management, business education, the issue of digital economy, and big data processing. A part of the discussion also focused on implementing theory into practice and experiences from practice into university studies of business economy and management. A lot of suggestions from the discussion will be taken into consideration when preparing the master program Business Analyst, which is currently being readied for accreditation at the Institute of Technology and Business in České Budějovice. Entries from the conference will be published in a printed collective volume and selected entries will be published in the scientific journal *Littera Scripta*. The organizers of the conference decided that the conference will happen for the second time next year in cooperation with the School of Expertness and Valuation at the Institute of Technology and Business in České Budějovice.

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