



Sustainable development in the regions and countries

Management and Marketing

edited by
Ewa Bojar
Jolanta Słonec

MONOGRAFIE

Sustainable development in the regions and countries

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INTRODUCTION

Management as a discipline based on scientific principles established over a century ago and although many directions of its development have been already thoroughly investigated, it is still a intensive growing field of knowledge. We give the reader a monograph consisting of a series of chapters covering a wide range of issues dealt with in the modern science of management. They cover both global issues and local issues, concerning our country and other countries, dilemmas selected sectors of the economy, as well as separate companies.

The present monograph includes ten chapters dealing with separate topics of modern management. The book begins on a chapter of the problem of the trust importance in relations between organizations. The author examines the specific analysis of trust in public sector organizations. He concludes that public confidence has a big impact on the performance of the organization.

The second chapter concerns the regional economic policy, in particular the problems of social justice and the efficiency of economic activities in the practical models of regional policy in post-Soviet Russia, in the context of global trends. The present study is based on the example of the North Caucasus region and include directions and strategies to improve regional policies related to the development of the social component and an increase in the level of capitalization of territorial resources.

The next chapter presents the issues of sustainable development in the manufacturing and construction. The authors present a methodology for life cycle assessment and design for the environment as a procedure now widely used around the world. In terms of sustainable development a key issue is to reduce the harmful effects of industrial pollution on the environment. They describe a case study of a building 'Leaf House' located in Italy, for which it was drawn up energy balance. In conclusion, they estimated the reduction of energy and the benefits of energy savings, as well as methods to reduce the burden of the building for environment.

In the fourth chapter author presents foreign direct investment in the tourism sector in Kenya. He lists the factors affecting foreign direct investment flows to Kenya, in particular in relation to the tourism sector.

The next chapter presents environmental awareness society and sustainable development in Russia, in example of Krasnodar region. The author concludes that the level of environmental awareness in Russia is traditionally very low in comparison with the countries of the European Union. It is a barrier to innovation development and diffusion of new energy-saving technologies. Empirical studies confirm these findings. He also presents measures to promote pro-environmental behaviour in society.

Sixth chapter refers to selected issues of nature conservation in relation to local governments. The author presents the use of protected natural values and their importance for the development of municipalities, as well as the problem of financing the municipalities of various projects supporting the preservation tasks with relation to the environment. He also discusses the importance of administrative decisions from the point of view of the protection of local ecosystems, but in particular stresses the need for continuing research on the quality and methodology of the decision allowing for the implementation of big investments, which usually interfere in the natural environment.

The next chapter deals with the concerns the measurement of productivity in higher education. The authors present the complexity of the problem and present an original method to measure productivity in higher education. According to the authors a university is a complex system, in which the key role played the experience of students.

In the eighth chapter is presented gender marketing as a new trend in consumer behaviour. Women are very specific target group, and therefore, marketing activities targeted at women should be the result of knowledge of the target group, and planning activities should be consistent with the needs of the group. According to the author, companies should be aware of the purchasing power of this group of clients and their communication capabilities.

The ninth chapter presents the issues related to the impact of e-health solutions for the competitive position of the medical establishment, mainly from the point of view of its patients. The author presents the role that e-health solutions play in the process of building a competitive advantage of medical facilities. He also defines what impact has the solutions of e-health to choose by patients a particular medical facility.

In the tenth chapter it is presented social networks as a place of marketing activities in the entertainment industry. In the case study of a particular business author points problems in the management of the company and the reasons for its weak distinguishing from the competition. He cites the possibility to solve business problems through activation of selected activities in social media.

Issues discussed in the monograph indicate that a wide variety of problems associated with modern management. At the same time authors contained chapters realize that they do not exhaust the issues raised. They also hope that the presented problems dealing with both of global, regional, and local issues and contemporary management science will be the beginning of further in-depth research in the areas of knowledge presented and will contribute to change the reality around us for the better.

Barbara Kożuch*

1. TRUST AND PUBLIC MANAGEMENT

ABSTRACT

The aim of this chapter is to demonstrate what has a significant impact on shaping relationships based on trust within and between organisations. Main assumptions made in this chapter that efficient functioning public organisations has a significant impact on shaping relationships based on trust within and between organisations. Firstly, it provides an short overview of trust research. Then the specificity of public trust is analysed. In doing so, the chapter addresses important implications of different approaches to trust in public organisations. Secondly, it explains how a developed model of mechanism of creating public trust works. Finally, it briefly concludes that public trust affects the results achieved by an organisation.

KEY WORDS:

public trust, competence, benevolence, integrity

1.1. Introduction

Issues dealing with public trust are hardly a novelty¹. Research to date, however, has focused more on changes in the psychological and political meaning of this phenomenon. They failed to address questions on what changes need to be brought about throughout an organization so as to make it capable of creating and restoring public trust. The current state in this respect is not known. The research conducted represents an attempt to partially bridge an existing gap.

In the today's public management, two trends explicitly come to the fore. The first entails a departure from reiteration and duplication of activities as well as execution of instructions so as to emphasize creativity in problem solving, whereas the other involves establishing relationships not only within the public sector, but also through collaboration with organizations from the same and other sectors. Therefore, an organizational perspective in exploring public trust has gained prominence.

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¹ This work contains part of research carried out in 2012-2013 and published in the monograph: Kożuch, B., Dobrowolski, Z. (2014) *Creating public trust. Organisational Perspective*. Frankfurt am Main: Internationaler Verlag der Wissenschaften.

The aim of this work is to demonstrate that efficient functioning public organizations has a significant impact on shaping relationships based on trust within and between organisations.

Main assumptions made in this work that efficient functioning public organizations has a significant impact on shaping relationships based on trust within and between organisations.

1.2. Understanding trust in organizations

Trust is rightly called the foundation of all organized activities conducted by people. An organization cannot exist if there is no cooperation which requires trust, or at least the minimum of it. Without trust, people would have been paralysed by inaction. Trust is connected with many concepts:

- reliability,
- predictability,
- expectation,
- collaboration,
- goodwill,
- accountability (Hawley, 2012).

It means that the party who is trusted by someone is believed to act to that party's benefit, or at least not to act against it. Furthermore, that party will be reliable and the behaviour will be foreseeable and in accordance with the commonly accepted rules (Paliszkievicz, 2011, p. 318). In other words, trust is described as the expectancy by the truster that he/she will be treated with fairness and will not be harmed by the trustee (Binikos, 2008). It should be emphasised that it reflects the perceived features of an individual, group, organisation or institution:

- reliability,
- competence,
- legitimacy,
- honesty (Llewellyn, Brooks & Mahon, 2013, p. 19).

In general, based on the literature review, features of the concept of trust may be described as follows:

- *“It is interpersonal: between concrete individuals and connected with communication.*
- *Situational rather than global: trust is placed in one particular person.*
- *Voluntary: trust must spring from choice and cannot be compulsory, sometimes it is experimental.*
- *Committed, since each party depends on the other (without being able to control him/her).*

- *Conscious: each party is aware of the other party's trust.*
- *Relevant, in the sense that the consequences of breach of trust by one of the parties cannot be considered insignificant by the other.*
- *Dynamic or temporal, because it evolves over time: trust is established and grows or diminishes and dies.*
- *Action oriented, implicit in the goal of the relationship.*
- *It is not a linear process. If damage to the relationship is suffered then trust is likely to decline. Trust may evolve through a process, but it may also devolve” (Paliszkiewicz, 2011, p. 318).*

In management and organization a specific set of attitude and behaviour models is linked with the concept of trust:

- a belief in a person's competence to perform a specific task under specific circumstances and an individual's expectation of the other party's competence, goodwill and behaviour,
- a set of expectations shared by all who are involved in an exchange,
- expectations that an individual can be relied on to fulfil obligations, will behave in a predictable manner, and will act and negotiate fairly when the possibility for opportunism is present (Sitkin & Roth, 1993, p. 373; Blomquist & Stahle, 2000, p.4; Zucker, 1986, p.54; Zaheer, McEvily & Perone, 1998, p. 143).

In the literature of the subject there are highlighted different types of trust like basic, simple, blind, or authentic (Solomon & Flores, 2001).

Basic trust is deemed as the ability and readiness to meet people without excessive suspicion, the capability of talking to and deal with strangers, and the willingness to enter into intimate relationships. Basic trust lays foundation for individual's entire personality and attitude toward the world.

Simple trust suggests no suspicion; it is free from reflection, conscious choice, analysis, and justification. It may occur when there are no reasons to question somebody's trustworthiness, it happens that a person who trusts is simply naive.

Blind trust has been exposed to violation and betrayal but refuses to believe it has occurred. Blind trust denies the possibility that anything could shake or betray the trust.

Authentic trust occur when a person is fully self-aware, familiar with its own conditions and limitations, open to new and unexpected possibilities; a person is driven by choice and responsibility rather than the mechanical operations of predictability, reliance, and rigid rule following. Authentic trust is aware of the risks and ready to confront distrust and overcome it.

In defining trust the most known concept represents the approach presented by R. Mayer, J. Davis, and F.D. Schoorman is the most popularised (Mayer, Davis & Schoorman, 1995, p. 712-714). These authors, on the basis of the refer-

ence literature (Gambetta, 1998, p. 213-237; Deutsch, 1960, p. 123-140; Lewis & Weigert, 1985, p. 967-985) and their own research, quite pertinently claim that the true meaning of trust has been lost as other terms have been substituted and so the characteristics of trust are misunderstood. Other terms used include cooperation, confidence and predictability, all of which are differentiated to:

- cooperation,
- confidence,
- predictability.

Cooperation has been confused with trust as in this instance: Gambetta argued that trusting someone means *“the probability that he will perform an action that is beneficial or at least not detrimental to us is high enough for us to consider engaging in some form of cooperation with him”* (Gambetta, 1998, p. 220). Here the difference between trust and cooperation is not distinguished. While trust is not a prerequisite or even necessary for cooperation, by the same token cooperation does not imply or require trust. Cooperation may be a result of management conditions by which no-cooperation by any party would be punished; such cooperation will take place in an absence of trust, merely on the basis of mutual engagement in allotted tasks. As Gambetta stated *“as the high incidence of paranoid behaviour among dictators suggests, coercion can be self-defeating, but it may enforce ‘cooperation’ in specific acts, it also increases the probability of treacherous ones: betrayal, defection, and the classic stab in the back”*.

Individual’s behaviour may appear to be trusting, but it is driven by other motives or rationales.

The popular model of trust put forward by Mayer, Davis, and Schoorman and indicates that three factors of perceived trustworthiness:

- competence,
- benevolence,
- integrity.

All they are determinants of organisational trust. The level of trust is decided by the propensity of the trustor to rely on the perceived trustworthiness factors of the trustee. Competence in this model is seen as the reliable ability of the trustee in the given field. Benevolence is seen as the attitude and will of the trustee to act in the best interests of the trustor. Integrity is seen by the trustor as the ability and will of the trustee to maintain his moral and ethical values.

The value or amount of perceived risk has a bearing on the trust relationship in that a low risk perception may increase the propensity of the trustee to greater risk taking but any negative outcome will clearly diminish trust held while success will enhance trust as the trust is increased or diminished by experience. At the same time, experience of good outcomes will diminish the effect of the

perceived risk. The knowledge of the results obtained also influences the perceived risk.

Examining the concept of public trust, the emphasis should be put on the elements of the management processes and functioning of an public organisation in which the impact exerted by trust is the greatest in the context of formulating and attaining goals. Four primary elements forming trust requirements may be put forward. The elements include diligence to follow stated values and beliefs and ways of accomplishment organisational goals in practice.

The components of trust embrace integrity positive attitude and the organisation's willingness to meet its commitments. It signifies that even though organisations are created to deliver their goals, they will never do so without satisfying their own and their customers' needs. Good intent itself is not sufficient. What is necessary is to provide appropriate conditions, e.g. to develop appropriate organisational structures, possess necessary resources at disposal, create mechanisms of coordination, etc. Moreover, the level of ability to achieve predictable results influences organisational integrity, as practices creating the actual foundation for coherence in value

As it was demonstrated each organisation much depends on people, including the managers and the whole staff. A suitable set of managers' competences is at the heart of building and restoring public trust. Similarly, the employees' attitude towards their customers and other organisations is of essential importance. For that reason both those elements have a prominent place in discussed concept.

1.3. Specificity of public trust

Public trust sometimes is defined as social capital, that enhances problem solving, reduces conflicts, and enables more satisfying relationships (Fukuyama, 1995; Carnevale, 1995; Feldheim & Wang, 2003-4). That approach seems to be too wide when research revolves around the organisational perspective of public trust. That perspective can be traced in such researchers as Bourdieu and Putnam (Bourdieu, 2008, p. 248; Putnam, Leonardi & Nanetti, 1993, p. 167). Bourdieu, defining social capital as the first, correctly referred to it as the *“aggregate of actual or potential resources which are linked to the possession of a durable network or more or less institutionalised relationships of mutual acquaintance or recognition”*. While Putnam emphasised the *“features of social organization, such as trust, norms and networks”*. Therefore, according to that author, trust is a feature of an organisation: in the case of a public organisation this feature remains to be public trust.

According to Balanoff and Master, public trust is the glue that holds given democracy together (Balanoff & Master, 2010, p. 90). From the perspective of the research it seems to be too general. However, researchers not always use the term of public trust.

Trust is defined not only internally, but externally also, i.e. in the light of shaping trust-based relationships between public organisations and citizenry. Moreover, it does not seem justifiable to correlate one feature of an organisation, or, in other approach, one type of relationship with the concept of good governance as one way to practice contemporary public management. The emerging doubts are well reflected in the question: Is it possible to practise good governance without practising public trust? The answer is rather unambiguous: when we talk about ways of achieving public goals on the ground of all concepts and models of management, the concept of public trust must not be omitted no matter what terms are be used.

An important distinctive feature of public trust is the fact that it is created through institutional processes of rendering public service.

Public organisations are involved in those processes because public services are created in public organisations and their delivery takes place on the border of a public organisation (or other organisation holding the license to provide such services) and citizens as well as customers as recipients of the services.

The specificity of public organisations especially reflected in the concepts of publicness and public accountability, clearly points at the need to distinguish public trust as a type of organisational trust. Following ethical rules and their public management practices have significant influence on the processes of understanding and creating the categories of public trust (Lawton, Rayner & Lasthuizen, 2013, p. 100-101):

- Integrity: personal conduct; carrying out duties; professional competence, demonstrating skills, care, efficiency and effectiveness; maintaining and enhancing the reputation of public organisation; demonstrating goodwill and energy; preserving public trust.
- Loyalty: the scope of loyalty: constitution, government/ministers, superiors, colleagues, family and friends, others; outside employment and post-employment; justifying 'disloyal' behaviour; misplaced loyalties.
- Transparency: access for citizens and providing basic information; focus on processes and outcomes; performance evaluation and feedback; procedures for redress; enhancing democracy; publicizing government services; register of interests; transparency in public procurement; recognizing the importance of public scrutiny.
- Confidentiality: rules on disclosure; misuse of information for personal gain; advice given to ministers; criteria for non-release of information; confidential information in public procurement.
- Honesty: enhancing trust in the decisions and actions of public officials; exhibiting truthfulness with relevant stakeholders; bribes and fraud; declaration of gifts and hospitality; dishonest use of time; equipment, financial resources, misuse of allowances.

- Accountability: accountability specification and mechanism; taking responsibility; use of discretion; financial, administrative, management, performance and legal accountabilities.
- Serving the public interest: conflict of interest and declarations of interest; registering relevant interests and assets; identifying those public officials for who register of interest is appropriate; identifying circumstances where public duty might be subverted by the pursuit of private interests of the public official or others.
- Exercising legitimate authority: abuse of public office for private gain; handling out of favours, including nepotism; defining inappropriate, unauthorized or illegal actions; exercising authority unfairly or with discrimination; abusing the rights of others; judicious use of resources, not abusing government property; not interfering improperly with the judiciary or the legislature.
- Impartiality: the duty to offer impartial advice based on facts, without 'fear or favour' to different groups of stakeholders; adhering to non-discriminatory practices; the merit principle in recruitment and promotion; considering the views of all relevant stakeholders when making decisions, as far as is practicable; avoiding political activities of civil servants.
- Responsiveness: balancing responsiveness with other principles; respecting, and responding to, the rights and expectations of others; responding to others with courtesy and being sensitive to their needs; advertising grievance procedure.
- Respecting the law: respecting the Constitution and the law; accepting the supremacy of law; acting according to law.
- Exercising leadership: acting ethically at all times; taking the lead in endorsing and implementing ethical principles; demonstrating leadership in the public interest; demonstrating consistency in the application of principles; communicating realistic expectations to staff; developing a culture of openness and building and maintaining trust.

In relevant literature public trust is often used in reference to the internal part of an organisation (Park, 2012, p. 562-590). In that case cognition-based (i.e., rational) trust and affect-based (i.e., relational) trust are distinguished in that case. The source of cognition based trust is a rational assessment of a colleague covering their competency, attitude and character which enables an evidence based judgement that trust invested will not be misplaced under any foreseeable circumstances (Atkinson & Butcher, 2003, p. 294; Chua, Ingram & Morris, 2008, p. 436). Affect-based trust is based on relational premises which in turn are founded in the emotional and psychological aspects that form the relationship. This relationship may be characterised by openness, empathetic feelings and usually reciprocated social understanding and shared values. This

type of trust can be enhanced when managers show genuine care for the general wellbeing of their subordinates and can be further developed throughout an organisation through shared values ethics and concerns.

Because of the lack of necessity for an evidence base before trust is invested, affect-base trust reached greater intensity and greater scope much sooner and more easily than cognition-based trust (Lewicki & Bunker, 1995). That same approach can be applied in examining public trust. Its concept encompasses both the internal part of the organisation and the individuals and organisations interested in the functioning of public organisations and their results. In other words, public trust concerns both internal as external stakeholders.

In the context of hitherto existing discussion a model of mechanism of creating public trust can be developed. This model is composed of:

- consistency and coherence in stated public values and organizational practices,
- public organization's willingness and ability to meet its commitments;
- general and specific public managers competences and staff attitude to citizens,
- public knowledge of organization's capacity and accountability.

All these components are directly and indirectly connected with rational (based mainly on assessment of an organization's abilities) and relational trust (based mainly on trusting relations) as they have an impact on the creation of those two types of trust. Individual components are created in an organisation, outside it or at its interface with a public organisation or a citizen.

In other words, organisational behaviour of people and systems on both sides of the processes of delivering public services together with their material and immaterial resources influence the development of the types of trust, creating public trust as central category of the contemporary public organisations.

1.4. Conclusion

The main point of provided considerations is that public trust affects the results achieved by an organisation. If components of public trust are characterised by high ethical and effectiveness standards, then the organisations attains organisational goals in a more effective way. Yet in the event when the actual characteristics – in whole or partially – fall short of high standards, then we deal with lower trust and consequently with deficient final results.

The research of public trust lead to the conclusion that the concept of public trust includes certain amount of dynamism and can be defined as a citizens' knowledge and belief in public officials and public institutions that they are able to effectively provide policies and programmes that benefit them and protect their rights. Public trust is reflected in relationships between the citizenry and

those who represent and serve them, and also in internal organisational relationships.

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2. REGIONAL ECONOMIC POLICY: THE PROBLEM OF COMBINING PRIORITIES OF EFFICIENCY AND SOCIAL JUSTICE

ABSTRACT

Main problems of combining principles of efficiency and social justice in various practical models of regional policy in post-Soviet Russia in the context of global trends were considered in the research. Taking into account peculiarities of peripheral and semi-peripheral regions (North Caucasus) was given implementation experience analysis of regional policy modernization applicable to mixed economies and historically developed traditional economic practices, accented on the specifics of institutional environment and social organization of economic relations in the region. There are main directions and strategies for improving regional policy in the North Caucasus, associated with development of its social component and an increase in the level of capitalization of territorial resources presented in the article.

KEY WORDS

regional policy, regional economy, peripheral regions, economic structures, modernization, efficiency, social justice, economic balance, socialization, resource capitalization

2.1. Social balanced regional policy as an imperative of spatial development management

In the context of enormous extension of Russia's economic space, high level of differentiation of its regional economic structures in composition, diversity of available natural resources and geographical location, availability of manufacturing and social infrastructure, ecological security, state regional policy performs an essential, key function as preservation and reproduction of integrity and unity of the country as a complex socio-economic system.

Due to the historically spatial diversity of the country, smoothing centrifugal potential impacts of the existing mechanisms of free market, including inter-regional competition, concentration of business activity and resources in certain

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localities, inevitably leading to polarization of economic space, is an imperative of modern regional policy.

Inter-regional inequalities and disparities, as world practice shows, are common to all countries, especially to those with a vast territory and a variety of natural and geographical conditions.

Processes of economic modernization and economic reforms always have side effects as increased spatial differentiation, regional divergence, and increased polarization trends in regional economic dynamics. Thereafter regional policy targeting faces a dilemma: economic growth and efficiency of investments in certain regions or social justice in the context of an imperative – one country – equal access to social standards of living, employment and well-being, regardless an area of residence.

Therefore, the level of regional development alignment as a priority and key strategic task of the state is recognized and implemented in all developed and developing countries, thus providing social (spatial) equity (Fetisov, 2012, p. 252; Selivyorstov, 2013, p. 3-36; Ovchinnikov & Kolesnikov, 2008, p. 176).

This task is being implemented through redistributive mechanisms when revenues (natural resource rents, profits, etc.) of rich regions partially redistributed to the lagging, poor regions, and (or) through the large-scale investments by state, financing of major regional projects, institutional support, etc.

In modern economic practice there are three different approaches to regulation of the dynamics and proportions of spatial economic development and troubleshoot existing imbalances.

The first approach is demonstrated by the World Bank, which key objective of regional policy is to smooth the spatial differences in quality of life (rather than differences in the business activities). Target orientation of such regional policy should be an economic integration of a region through development institutions, infrastructure, promoting business activity in cities that are centres of agglomerations.

The second approach is characteristic mostly for regional policy of the European Union and the OECD. It suggests target orientation of efforts and resources on economic growth in all regions, maximizing the use of their economic potential. Key imperatives of such policy are creation of national wealth in all regions, innovation and improvement of regional assets, their capitalization.

The third approach involves setting a target of regional policy to solve spatial problems of employment. Moreover, spatial disparities and territorial differentiation of economic growth are considered in terms of employment. Whereas in some regions the market can not ensure economic growth and employment generated by the private sector, the public sector takes on the function to create jobs and reduce unemployment.

In Russia in the 2000s were made necessary institutional changes that allowed the state to establish mechanisms for regional policy. At the federal, regional and municipal levels administrative, municipal and fiscal reforms were

in parallel implemented, and federal and regional legislation was aligned and harmonized (in the 90th, there have been taken hundreds of regulations in subjects of the federation that contradict the legislation of the Russian Federation). Structure and regulatory and procedural base of intergovernmental relations were improved, funds to support regional development and municipalities, regional investment agencies were established, consolidation of some subjects of the Russian Federation were implemented. Also Ministry of Regional Development was recreated, and developed a concept of socio-economic development of regions of the Russian Federation. In subjects of the Russian Federation on the base of single method developed by Ministry of Regional Development and with the state budget support practice of strategizing socio-economic development of regions and major cities was implemented as well.

In Russian economic practice over the past 10-15 years were changed at least three models of regional economic policy: 1) policy of socio-economic development alignment, smoothing sharp differentiation between them; 2) supporting policy of high economic growth in all regions and carrying out anti-crisis policy during the recession of 1998-1999 and 2008-2010; 3) policies of supporting regions-locomotives, 'points' of economic growth, dotted investment support for leading regions for innovative growth. In fact, the evolution of Russian regional politics with some asymmetry and varying degrees of success repeated the above mentioned three approaches to regional economic policy of the World Bank, the European Union and the OECD.

Since 2008, Russia embarked on a transition to an innovative model of regional economic policy, which was initiated by Concept of long-term development of the Russian Federation for the period up to 2020, according to which, modernization of the economy was announced as a key challenge, which implies active government intervention in the economy of the regions. The innovative model of economic development includes also new approach to spatial economic development, comprising:

- Support the formation and development of new centres of economic growth, based on establishing objects of energy and transport infrastructure and networks of territorial-production clusters;
- Implementation of 'horizontally' agreed investment strategies of the state and business in the infrastructure sectors of regional economy with the priorities of spatial manufacture distribution and resource constraints that exist in the region;
- Formation and realization of interconnected national and regional programs complex, and allocation of budgetary resources to regions with equal self-financing of these programs by regions themselves.

The main idea of new regional economic policy aimed at modernizing the country is to create a favourable institutional environment, 'development institutions', as well as to form a polycentric, 'multi-scale' structure of regional

economies by supporting new economic growth centres, which primarily include major and first-string cities (metropolis) broadcasting innovations to peripheral areas and developing network forms of business organizations, contributing to development of new centres of competitiveness.

An important feature of new regional policy is not only to implement distribution mechanisms, but above all – to form mechanisms for initiating self-development of territories, stimulating business community and business organizations to integrate resources so that to achieve common within region goals and tasks of economic space modernization.

Among them, the crucial one is to improve existing and create new forms of spatial organization of economy – special economic zones, industrial zones, industrial parks, transport and logistics centres, specialized trade and warehousing zones, agro-cities, innovative regional-manufacture clusters, etc.

In southern Russia, for example, set up and are operating more than 70 such organizations of institutional innovative infrastructure, including in the Krasnodar region – 12, Rostov region – 37, Stavropol Territory – 6 (MIIRIS 2014).

Since 2006, Russia has been implementing a multi-purpose program “*Creation of technology parks in the Russian Federation in the sphere of high technologies*”, approved on 10th of March, 2006 by the Government of the Russian Federation. In accordance with this program in the South of Russia (Rostov region, Stavropol Territory) there are created and operates more than a dozen industrial parks, 4 techno parks, 4 business incubators, innovative cluster of biotechnology, biomedicine and economic security, etc.

With all the importance of economical modernization for establishing an enabling institutional environment, the key question remains principles and mechanisms of inter-regional distribution of the limited resources that the federal budget can allocate to upgrading of regional economies.

Stimulating type of realizable regional economic policy requires an abrupt change in the proportions of inter-regional allocation of resources, because only their concentration on the growth-points can give a quick and significant effect, but increases the risk of underinvestment regions outsiders, underdeveloped and troubled regions.

Modernization of heterogeneous regional economic structures based on the new regional economic policy is faced with contradictory results of its implementation.

On the one hand, reliance on competitive advantages of certain regions while choosing priority directions of modernization has resulted in an achievement of maximum economic efficiency. On the other hand, this policy of resource concentration (business, finance, manufacture facilities, infrastructure) in some regions leads to negative consequences – spatial unevenness of modernization processes in the economy and the inevitable growth of inter-regional income

and regional budgets inequality, exacerbating the depopulation and extremely low population and labour resources mobility in peripheral regions.

Therefore, a balanced regional policy includes supporting mechanisms not only for regions-locomotives, but also for stimulating depressed and under-developed areas, comprising the promotion at the state level of capital inflows and investments, founding new businesses, creating new jobs with high wages, implementation of capitalization strategy at all available on the territory economic assets and local resources. And, despite the fact that in lagging regions the return on capital, levels of productivity are lower, and production costs for infrastructure are higher, and policy of simulated investment attraction leads to lower overall macroeconomic performance, however in general such a balanced economic policy is the preferable one because it provides more uniform modernization of the spatial economic structure and does not allow critical territorial disparities and polarization of economic space.

It is particularly preferred and relevant for peripheral and semi-peripheral regions of Russia with backward economic structure, an undeveloped industrial and social infrastructure, unbalanced labour market, that is most affected by 'social injustice' prevailing economic space heterogeneity and contradictory nature of regional policy.

Macro-region of the Russian Caucasus (North Caucasian federal district: the Stavropol Territory, the Republic of Dagestan, Kabardino-Balkaria, Karachay-Cherkessia, North Ossetia-Alania, Chechen republic, the Republic of Ingushetia) refers to the number of typical peripheral regions.

2.2. Features of combining the principles of efficiency and social justice in the peripheral regions of the Russian North Caucasus

Development of the Russian Caucasus as the periphery is due to three main factors: a) a significant part of its territory – 2/3 – refers to the mountain and enclave type foothill areas of farming conditions which require high production costs and settlement system, which is dominated by small and tiny settlements; b) isolation, lack of advanced communications and high transport costs, c) fragmentation and largely enclave nature of local markets, low demand of the population. From the standpoint of pure economic logic for investors, large corporations, top managers, employees 'entering' in the region appears to exercise greater risks.

Macroeconomic Dynamics of North Caucasus republics are characterized by unstable growth.

In terms of GRP North Caucasus republics among 83 Russian regions belong to the group of regions-outsiders, which is characterized by 2.5 – 6 times the lag of the Russian average GRP per capita. In terms of growth in investment

and industrial production during the crisis and out of it in 2008-2012 regions of the North Caucasus represent very unequal picture (Table 2-1).

Table 2-1. Average annual growth rate of investment and industrial production in 2008-2012 in the regions of North Caucasus Federal District

№	Region	Investments	Industrial production
1.	Republic of Dagestan	13.2	7.2
2.	Republic of Ingushetia	4.6	-13.3
3.	Republic of Kabardino-Balkar	-9.1	1.0
4.	Republic of Karachay-Cherkessia	6.7	15.3
5.	Republic of North Ossetia-Alania	-3.2	6.5
6.	Stavropol territory	7.0	5.0

Calculations used from: Suspitzin, 2013, p. 299-300.

However, in general, these data indicate gradual overcoming of the economic downturn in the North Caucasus. Budgetary infusions to republics, although only slightly, but nevertheless increased their share in total investment and industrial production in the Russian Federation in 2007-2012.

Table 2-2. Changes in the proportion of districts in total investment and industrial production of the Russian Federation in 2007-2012

Federal District	Investments		Industrial production	
	2007	2012	2007	2012
Central	26.6	21.1	26.9	26.4
North-West	12.9	11.7	12.3	12.2
South	8.0	9.5	5.1	5.6
North Caucasus**	2.4	3.1	0.9	1.1
Privolzhsky (Volga)	16.8	16.3	20.1	20.5
Uralsky (Ural)	15.5	18.4	19.4	17.8
Siberian	10.8	11.9	11.5	12.1
Far Eastern	7.0	8.0	3.8	4.3

* Calculations used from: Suspitzin, 2013, p. 297

** Excluding the Chechen republic

In the first half of 2013 compared with the same period in 2012 the industrial production index of the North Caucasus was 100,8%, including in the sphere of mining and quarrying it was 96.5%, in manufacturing industry – 103.4%, in production and distribution of electricity and gas – 92.1%, fixed investment fell to 93.5%, the construction of houses – 92.3%. Migration loss of the population was 16,678 people (The main indicators of socio-economic status, 2013, p. 18-19).

Main characteristics of the peripheral economy of the North Caucasus:

- Retention of fragmented (mosaic) structure of the economy;
- Enclave modernization – establishing of separate modern industries;
- High dependence on federal investments, presence of high risks for investors;
- Large amounts of tax arrears;
- Stable reproduction of high-level shadow economy;
- Dominance of traditional economic structures, small-scale production;
- High employment in private plots and household;
- High level of ‘voluntary’ and involuntary;
- demand for seasonal employment.

In recent years, the practice of the federal regional economic policy in the Russian Caucasus used at least five models of regional strategies:

- Strategy of ‘levelling’ the level of socio-economic development of regions.
- Strategy of ‘doubling the GDP’.
- Strategy priority regional support – ‘engines (or locomotives) of growth’.
- Strategy of using investment megaprojects as a tool for regional jobs (Sochi 2014, ‘Height 5642’ – development project of ski touristic cluster, restoration of city Grozny, etc.).
- Finally, strategy of direct endowment ‘appeasement’ – saturation, ‘pumping’ budgets of North Caucasus republics by federal funds.

Taking into account all very important economic results (infrastructure development, social facilities, development of new industries and businesses in the region) – summary total of implementation of these regional socio-economic policy models was significantly different from the original plans and goals. In particular, the trend towards divergence, economic space heterogeneity of Southern Russian regions increased, the lag of the North Caucasus from the macroeconomic dynamics of the majority of Russian regions is preserved, canned (Ovchinnikov & Kolesnikov, 2008, p. 111-112; Zarutsky, 2010, p. 159-160).

Doubling GDP is reached, but fragmentary and outdated economic structure retained, qualitative GRP growth (industry and manufacturing sector in general

give only 17-30% of GRP, while in Russia on average – more than 40%) is not achieved, the contribution of innovative Caucasian economy in GRP is one hundredth of a percent. State ‘dotted’ support for ‘regions-locomotives of growth’ has led to an increase of social contrasts in the periphery, migration, social curtailment of the localities, but the policy of increasing the number of new jobs in the context of existing target ‘fight with unemployment’ in the North Caucasus republics by implementing investment megaprojects proved to be ineffective. Jobs are being created, but the demand is not met by the local population.

Large investment projects for their realization on the periphery require high mobility and, consequently, low-cost housing, specific professional competence, which often simply is not available.

At the Olympic facilities in Sochi, for example, worked more than 70,000 foreigners from 25 countries and over 60,000 visitors from other regions of Russia. In 2012 in Sochi in migration records were registered more than 180 thousand people, which is 40% more than in 2011 (RG, Sept. 10, 2013).

Experts of Ministry of Labour believe that one of the main reasons for hiring foreign workers in Russia is still the inability to meet the workforce in the labour market due to lack of qualified local staff (RG, Sept. 17, 2013). The labour market in the North Caucasus remains to be hardly regulated.

Finally, the strategy of ‘pumping’ the budgets of republics of the North Caucasus from the federal budget, mainly solves the problem of stabilizing the social situation in the region, but not the problem of its modernization.

For 10 years the federal budget through various channels of funding invested in the North Caucasus republics 800 billion rubles. And, if even in 2000 it was about 15 billion rubles, now (in 2010) in their annual budget amount of 180 billion rubles comes, which is an increase of 12 times! (Vestnik 2010). Nevertheless we failed to change fundamentally the nature of regional economy, – assesses the situation Vladimir Putin (Vestnik 2010).

It should be noted that in the new, recently approved by the Russian government state program of development for the North Caucasus till 2025, the amount of funding should reach 2.5 trillion rubles, there is a change of emphasis in the budget policy with a focus on budget support for investors (RG, Aug. 29, 2013).

Thus, those financial resources that the federal centre was able to invest in modernizing impulse of the North Caucasus in the framework of the strategies and instruments of regional policies that were used, did not give the expected results. Moreover, the bulk of them did not have originally modernization vector, critical mass, needed to overcome historical inertia in the organization of economic life in the region.

Incompleteness of forming appropriate and modern social modernization imperatives of institutional conditions, in which economic, business, investment activities in the North Caucasus are taking place, was the key factor here.

2.3. Institutional modernization – key issue to achieve the principles of combining efficiency and equity of regional policy in the peripheral localities

By virtue of these institutional features of social organization of the economy in the North Caucasus regional policy here suggests the need for more adequate content and organic forms on economic socialization practices.

In Russia, as well as throughout the world, there are identified two major strategies for modernization of regional economies (Source modernization pulse) – ‘modernization from below’ and ‘modernization from above’. In the first case, the development of economy, business practices carried out by organic evolution, the gradual accumulation of resources and their capitalization.

In the second case – ‘modernization from above’ – economic growth is brought out at the expense of large investor (including the state), large multinational or national corporations coming to the region.

Modernization ‘from above’, as well as modernization from ‘bottom’ in region encounters serious institutional constraints associated primarily with the binary nature of the social organization of economic practices in the North Caucasus, where the formal rules, enshrined in law, fancifully combined with archaic forms of economic activities regulation and administration, and also economic institutions such as ‘power-property’, ‘shadow economy’, ‘rent-oriented behaviour of management’, ‘kickbacks’ in the public procurement system, ‘raider attacks’ that actually redistribute resources.

Dynamics analysis of main macroeconomic indicators of region development at the end of XX – the first decade of the XXI century reveals a lack of social efficiency at the models of regional policy, traditionally not targeted, not ‘imprisoned’, on the perception and taking into account features of the institutional environment and social organization of economic practices historically developed in the North Caucasus.

In this regard, there is a need to develop an alternative and more socially oriented (‘fair’) model of regional policy in the North Caucasus, which key strategy would be an increase of internal regional resources capitalization, the growth of assets value, human capital and living environment of local society (real estate, natural resources, infrastructure, communications, education, healthcare, mobile capital). As it is known, in condition of today's inter-regional competition for capital and financial resources, social and investment attractiveness of a region for large corporations being non-residents is determined not by the presence of certain types of resources and reserves, but by the terms of their capitalization and the possibilities of their involvement in national and international market.

For Russia, the whole problem of capitalization of its vast territory is becoming crucial in the XXI century. Specific capitalization of aggregate resources

in Russia, according to some estimates, 5 times lower (and in some regions – 30 times lower) than the average for developed and developing countries (Arabkin 2013). Capitalization of labour, engineering and scientific expertise in Russia is 4 times lower than in the West.

According to assessment of E.R. Altynbayeva intraregional differences by market capitalization of territories between Russian regions are considerable. For example, level of resource capitalization in the Rostov region 7 times lower than in Vologda (Altynbayeva, 2009, p. 12).

Available data on the dynamics of capitalization level in certain regions of the North Caucasus suggest that the downward trend (2000-2006) of integrated index 'resource-assets capitalization' was replaced in 2007-2009 with its growth (of 6% on average for some number of indicators) (Darmilova, 2008, p. 211-212; Atlas of socio-economic development, 2001, p. 131-133).

However, implementation of capitalization strategy in the North Caucasus is complicated by the general trends, such as manageability reduction of economy at the regional level.

This is due to the fact that, firstly, economic activity of large businesses cannot be effectively regulated by regional authorities under 'open economy'; secondly, there are financial flows out of subjects of the federation authority, that are impossible to be managed at the local level because of their 'non-regional' jurisdiction; thirdly, as exports and imports are develop and multinational retail chains are coming in the region, consumer markets are getting out from control of local authorities; fourthly, housing and housing utilities markets almost went out of regional government control; and, fifthly, the boundaries of industrial markets in general ceased to coincide with the administrative boundaries of cities and villages.

Overcoming these contradictions in the sphere of regional policy in the North Caucasus assumes a transition to new strategies of regional economic policy, which would be subordinated to the tasks of increasing value of assets held by the regional structures – manufacturing, natural, real estate, human capital, i.e. their capitalization.

To the number of main cash flow generators in the Russian Caucasus, besides the state, should attribute big out-of-region business, small businesses, including ethnic (ethno-economics) and households. Moreover, taking into account, that the Russian Caucasus' priority in generating cash flow belongs to small commodity, service orders and households, the most effective strategy of capitalization may be engaging in the region trade and service capital.

According to our calculations small commodity sector constitutes 54-56% of the North Caucasus economy. The core of this sector is ethnic entrepreneurship. And provided that establishment of appropriate institutional environment (legal, transport, information, logistics, development of consumer cooperatives, microfinance, etc.) small ethnic entrepreneurship can significantly increase the level of territory capitalization. Not accidentally Finance Minister of the Russian

Federation A. Siluanov noted that the North Caucasus is showing growth of tax revenues is personal income (RG, Aug. 21, 2013).

It should be noted that the greatest increase in the number of small businesses in the post-crisis period (2009-2011) among federal districts marked specifically in the North Caucasus. If their number in the whole Russia in 2009-2011 increased by 110 %, in the North Caucasus Federal District – by 130% (*Regions of Russia* 2012, p. 25-283).

As for big business, its key investment targets are inter-regional grain and oilseed cluster, port and logistics centre, resort and recreation cluster, industrial clusters of export orientation.

Industry classification of ten leading companies in terms of sales in 2011 in the South of Russia: Retail – 2, oil and gas industry – 3, AIC – 1, mining and metallurgy – 1. Wholesale – 1, transport and logistics – 2 (Yusupov, 2013, p. 296).

In the republics of the North Caucasus there are operating 16 (out of 150) of Russian biggest companies, including JSC ‘Gazprom’, JSC ‘Svyazinvest’, JSC ‘NK Rosneft’, JSC ‘Lukoil’, JSC ‘Eurocement Group’, JSC ‘Ural Mining and Metallurgical company’, JSCB ‘Mezhprombank’, LLC ‘RostAgro’, agro-industrial group ‘South of Russia’, JSC ‘Yugtransitservis’, LLC ‘Valerie’, company ‘Valerie-Trade’, agro-industrial company ‘Aston’ (JSC), LLC ‘Golden seed’, JSC ‘Southern Telecommunications company’, LLC ‘ISK Tandem-Yug’.

To this group of leading Russian corporations adjoin foreign companies operating in the South of Russia, including: Enel Investment Holding B.V. (Italy), Metro Group, Gloria Jeans, EBRD (European Bank for Reconstruction and Development), DEG (Customs Investment and Development Corporation), Philip Morris, Tetra Laval, Royal Dutch Shell, Gerrus Group, Chateau Le Grand Vostok, SVL Group, Societe Generale Vostok (BSGV), Pepsico, France-Caucase, Astor Dress & Sonmer Consrotium, Caisse des Deportset Consignation.

Consumer market of the North Caucasus includes such domestic and international retail chains as ‘Auchan’, ‘IKEA’, ‘Leroy Merlin’, ‘Eldorado’, ‘Technosila’, ‘Search’, CJSC ‘Tandem’, ‘Major League’, ‘Tri Bogatyrya’, ‘Ocean’, ‘ZENDEN’, etc. Their appearance enhances competition in sphere of trade.

Currently big business in the region is presented by network structures, outsourcing, financial groups and banks, which are the main drivers of economic growth and social development.

2.4. Directions and current strategies of balanced regional economic policy in the North Caucasus

Paying respect to the specificity of institutional environment and existing social organization of business practices in the North Caucasus can be successful modernization models, known in the world as models of 'creative adaptation' with organic inclusion in economic practices ethno-cultural peculiarities of behaviour and traditions that take into account mentality of ethnic group. This is exactly the version of modernization that will create institutional conditions for capitalization growth of territorial resources and, accordingly, will strengthen the social component of regional policy.

In accordance with this, capitalization growth of competitive resources and assets, located in the region, should be associated primarily with:

- Formation of high-tech services segment in the resort cluster. In 2013, some companies positioned themselves very successfully at the Sochi International Investment Forum of the North Caucasus: JSC 'Resorts of the North Caucasus', signed a cooperation agreement with the French company 'France-Caucase' for the total amount of 15 million dollars. The Republic of Dagestan presented 44 investment projects, that cost more than 195 billion rubles (including completion of building Gotsatlinskaya hydropower, creation an integrated logistics centre, construction of a factory for the flat glass production, etc.), the Republic of Ingushetia signed nine agreements with common cost more than 5 billion rubles, Kabardino-Balkaria – 3 agreements, etc. (Results of investment forum in Sochi 2014).
- Development of the North Caucasus region as a recreational nationwide and global importance region, in which key assets are its unique natural and climatic conditions and resources. In joint tourism cluster of the North Caucasus, Krasnodar region and Adygea republic involved 8 major regional resorts and touristic areas: 1) mountain ski – Lagonaki (Adygea, Krasnodar region), 2) Arhiz (Karachay-Cherkesia), 3) Elbrus Bezengi (Kabardino-Balkaria), 4) Mamison (North Ossetia), 5) Matlas (Dagestan), 6) Caspian coast seaside cluster (Dagestan), 7) Tsori-Armkhi (Ingushetia), 8) Veduchi (Chechen Republic) (Zamahina, 2013, p. 3). Generally, in this case we should talk about the need to maintain and capitalize ecosystem function of the North Caucasus as one of the priorities of social development and economic modernization in the region (that, of course, is only possible while reducing its contentiousness).
- Socialization of the economy, i.e. institutional adaptation of economy to the social and cultural identity characteristics of the population, development of institutions and infrastructure of 'human-oriented' types of economic activity – communal land, consumer cooperatives, micro-finance, outsourcing, development of business activities based on private,

family capital, small innovative companies focused on local demand for services (recreation, health, tourism, entertainment, etc.), that is to say, development of those types of economic activity, which enhance the level of entrepreneurial management, skills and high educational level of the youth, capitalization of human capital and local resources;

- Capitalization strategy of territorial resources, including: development of real estate market, corporatization of state property, state regulation of a policy that would provide an inclusion of non-regional large structures in the regional economy, improving the legal protection of regional resources and regional property from overpressure of extraterritorial capital. In the key factors composition of federal regional policy should be included new players in the space of regional economies, now defining the territorial capitalization process – large corporate entities ('non-residents') and large network-type business structures;
- Modernization strategy of ethno-economics institutions, optimization of economic structures organization forms in the region based on the technologies of their corporatization, inclusion in the network economic interactions, etc. In this situation actions for removing institutional deficits in the development of entrepreneurship in all sectors of the multistructural regional economy have particular importance, including actions taken through the use of complex social technologies to overcome barriers in inter-ethnic business cooperation, and also creation of an adequate mechanism for redistribution of natural resource rents in practice of competitive local resources, as well as convergence of disparate markets of the North Caucasus on the basis of creating a modern transport and logistics infrastructure.

Thus, at the beginning of the second decade of the XXI century in the state regional economic policy especially in peripheral and semi-peripheral regions with a mixed economy and traditional forms of business practices social organization, the basic principle was approved – management of spatial development should not exist only in the mainstream focus on economic efficiency, but should also obey the laws of logic, social efficiency and social justice. Search of efficient model in the Russian context of regional policy has shown that attempts to clone models of regional economies development are often incompatible with the specific spatial organization of Russia and allocation of major resources, with the features of historical distribution of productive forces, with the peculiarities of social practices and mentality of regional and ethnic elites. Currently there is taking place the transition from ultra-regional economic policy to more balanced model from the point of spatial development and social orientation of its main priorities.

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3. AN OVERVIEW OF SUSTAINABILITY ISSUES IN MANUFACTURING AND BUILDING SECTOR: A LIFE CYCLE ASSESSMENT APPROACH

ABSTRACT

In the latest decades, the industrial consumption of materials and energy has undergone a growth which may exceed the limits of earth resources. Therefore, a strong awareness of the need to use materials and energy in a more efficient way has arisen. A wide research interest on sustainability is present in the modern technical literature: Life Cycle Assessment (LCA) methodology and Design for Environment (DFE) procedures are nowadays widely investigated in many research labs all over the world.

In this context, this chapter focuses on LCA approaches in two main fields: manufacturing and building sector. As the former is regarded, sustainability issues are crucial topics and the reduction of environmental burdens for manufacturing processes is highly requested. As the latter is concerned, LCA allows to estimate the reduction of the operation energy and the increase of the embodied energy within the building life-cycle, and to understand whether the achieved energy benefits could be supported in a life cycle perspective or they were overcome by the environmental burdens of the actions.

KEY WORDS:

life cycle assessment, manufacturing processes, building sector

3.1. Introduction

3.1.1. LCA in the construction sector: embodied energy in high performance buildings

Embodied energy (EE) is defined as the sum of all energy needed for a certain product to be manufactured and dismissed, spent during all its life cycles. EE for buildings can be assessed through the Life Cycle Assessment (LCA) methodology, in compliance with the international standards of the ISO 14040 series. LCA aims to assess the energy impact of the whole building and its energy requirements ‘from the cradle to the grave’ in all the life cycle steps.

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The assessment of embodied energy from an LCA study imposes that the selected functional unit is the whole building. The inventory analysis is carried out in order to quantify the environmentally relevant inputs and outputs of the system, by means of mass and energy balances of the selected functional unit. Literature and existing building data are used in this phase, that makes use of software and models: embodied energy will be calculated summing up all the energy requirement for all the life cycles steps requested for the building construction.

Energy consumption in the building life-cycle is calculated conventionally as primary energy. This calculation usually takes into account all the losses related to the processes of extraction of the resources, their transformation and distribution and requires the assessment of electricity and fossil fuel uses, according to the mix of energy generation for the country in which the analysis is performed. With regard to the system boundary, the assessment of the energy and environmental performance must cover upstream and downstream processes needed to establish and maintain the function of the building. In detail, the life-cycle steps and processes that represent a major source of embodied energy and that are usually taken in consideration are:

- production of the building, which includes the production processes of all the building related materials and components, and the construction step of the building, taking into account raw material acquisition and resource supply,
- material and component replacement, including production and installation processes of the replaced components,
- end-of-life of the building, which includes all the process from the demolition/dismantling to the disposal/recycling.
- transports, including all the transport steps occurring during the whole life-cycle of the building, as the transportation of materials and components from the manufacturing gate to the construction site; the transportation of the replaced components from the factory gate to the building site; the transportation of wastes to recycling plants and/or disposal sites, when the end-of-waste state is reached.

The embodied energy in buildings is influenced by many factors whose importance is not always easily traceable. It is a known fact that the climate has large implications on the optimal design of envelopes. Constructions in cold climates usually use thin but highly isolated walls, buildings in Southern Europe make wide use of thermal inertia in order shift demand loads while in tropical climates natural ventilation is of paramount importance, etc. This is the point that leads to the general statement that embodied energy trends may vary with the geographical location, climate and construction habit. According to a selection of literature studies (Ardente et al., 2011; Cellura, Longo & Mistretta, 2011; Marszal et al., 2011; Blengini & Di Carlo, 2010), authors have selected some case studies that well represent average trends for the reported categories. What

emerged is that buildings constructed in cold climate (C) areas usually show lower values of specific embodied energy (kWh/m²) if compared to the more massive ones located in hot (H) countries. This is clearly identifiable in Figure 3-1.

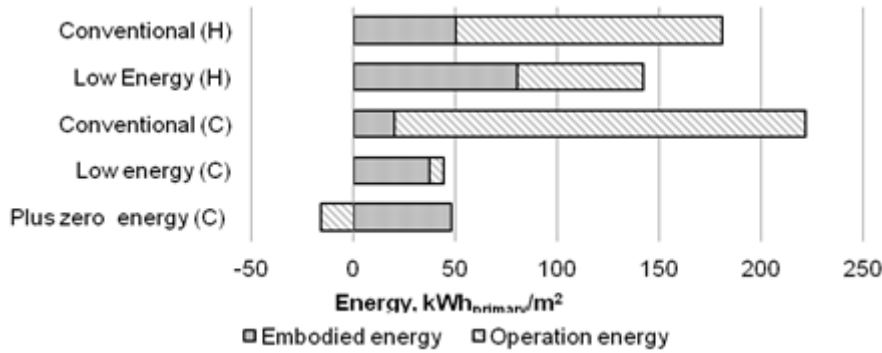


Figure 3-1. Embodied energy and operation energy for typical houses in hot and cold climates

One more relevant point to be discussed is that, from a life-cycle perspective, when shifting from conventional houses towards low energy buildings the relative share of operating energy decreases, while the relative share of embodied energy increases. Therefore, the lower the operating energy (e.g., low energy buildings, net zero energy buildings), the more important it is to adopt a life cycle approach to compare the energy savings achieved in the building operation through the local energy generation with respect to the overall energy consumption connected just to the embodied energy required for its construction.

3.1.2. Sustainable manufacturing

In the last decades, a strong awareness of the need to use materials and energy in a more efficient way has arisen in manufacturing industrial practices and academic research. In the latest decades, materials and energy industrial consumption significantly grew up; therefore the problem of exceeding the limits of natural resources became urgent. Industrial production accounts for the major percentage of energy-related CO₂ emissions. Moreover, worldwide industrial production is increasing, thus the efforts aimed to energy efficient industrial production are still not sufficient. In industrial sector CO₂ emissions derives both from direct emissions and indirect emissions, the latter are due to the industrial use of electricity (the electricity the industries use for their productions).

In this scenario, sustainable manufacturing is an urgent and remarkable issue and the main concerns are related to more efficient use of materials and energy. Actually, beside the optimization of manufacturing processes aimed at a zero

defect quality, another crucial objective has been recently raised for industrial applications: the increasing concern over environmental friendly processes and products has been addressing lately the interest of the scientific community towards new methods and technologies for more environmental friendly solutions in any industrial field. If a sustainability framework for manufacturing has to be developed, an evaluation of environmental impacts of materials production and processing is unavoidable. As efforts to enhance the environmental performances of manufacturing processes have become imperative both for industry and scientific community, the attention of the researchers has been naturally extended to develop eco-friendly solutions and technologies for industrial applications. Accordingly, as also raw materials have become more and more pricy and environmental laws stricter, reducing input materials and energy requirements has turned out to be a crucial action through the entire manufacturing chain. Among manufacturing processes, the large application of sheet stamping processes provides those with a quite high potential as contribution to the carbon emission reduction in several industrial areas. Monitoring quantifying and minimizing the environmental impact of a manufacturing process is an urgent issue. Kellens et al. (2012) provided a framework to standardize the environmental impact evaluation of manufacturing steps. In the latest years some researchers focused their studies on analyzing and modelling energy consumption and the environmental burdens of some manufacturing processes, particularly for machining. Actually, many papers in this field emphasize the possibility to precisely model machining processes sustainability factors (Gutowski, Dahmus & Thiriez, 2006; Narita et al., 2006). A recent contribution on energy consumption characterization for machining processes was proposed by Diaz, Redelsheimer and Dornfeld (2011). On the other hand, some researchers presented investigations on models and methodologies for optimizing the energy footprint for a machined product (Rajemi, Mativenga & Aramcharoen, 2010). On the other hand, in the metal forming research field there is still a lack of knowledge about how a proper choice of process parameters can improve or decrease the environmental burdens of a process. Such lack is mainly related to the need of a proper modelling of sustainability issues and factors to be taken into account. The studies focused on chipping processes generally deal with the influence of material removal and cutting fluids in parallel with the electricity consumption. In the case of forming processes (chip-less operations) no significant material waste or consumable usage is present, thus, the saving on the electrical consumption is the main issue. Some studies on discrete part manufacturing, also taking into account energy evaluations, were recently proposed (Nava, Jeswiet & Kim, 2010; Rahimifard, Seow & Childs, 2010). Nevertheless, the aforementioned contributions still leave a lack of knowledge in forming processes sustainability modelling. Actually, the models proposed in the technical literature investigate the processes taking machine tool level analysis results for granted. The outputs are not related to the input parameters by a model but simply hy-

pothesized as measurable whilst a deep analysis of the cause-effect linkages would be necessary. Actually, a linkage between process and material parameters and energy consumption, for instance, would allow to properly model environmental impacts and hopefully to forecast the proper energy minimization strategy. A former approach related to a whole comprehension of energy requirement at process level for a forming process was recently developed (Santos et al., 2011). Another innovative approach was proposed by Kellens, Dewulf and Duflou (2011): an analysis of energy calculation which considers the whole bending cycle of a machine tool is developed. This chapter focuses on incremental forming operations which proved their convenience and efficiency when small lots of high differentiated products have to be manufactured (Ambrogio et al., 2005). Recently, many researchers highlighted the ISF suitability for light-weight material processing (Fan et al., 2010), while other authors focused on geometrical accuracy improvement (Duflou et al., 2007).

3.2. Case studies

3.2.1. An Italian case study: the ‘Leaf House’

The proposed case study is an Italian residential, multifamily and three levels building, the Leaf House (LH), located in Angeli di Rosora (Marche, Italy). It was originally designed in order to be a carbon neutral house; later it was tailored as a Net Zero Energy Building (Net ZEB) (Sartori, Napolitano & Voss, 2012; Cellura et al., 2014), or, in other words, a building that is able to generate as much energy as it consumes in a selected life span. To this aim, renewable energy technologies were installed and integrated in a fully automatic heat distribution system. There is a common acknowledgement that the calculation of primary energy in building energy balances allows differentiation between electricity and fossil fuel use and includes an indication of the efficiency of delivering heating, domestic hot water, and lighting. Thus, suitable conversion factors between final and primary energy are taken into account, depending on the energy carriers used and on the Italian energy generation system efficiency.

Starting from the monitoring data on imported and on-site generated energy and including in the annual energy demand of Net ZEBs not only the operation energy but also the sum of all energies incurred in the other life cycle phases, the yearly energy balance can be expressed as:

$$\left| E_{exp} \times w_{PV} \right| - \left| EE_{imp} \times w_{grid} + TE_{ng} \times w_{ng} \right| - (EE_{i,a} + EE_{r,a} + DE_a) \quad (1)$$

where:

- E_{exp} is the on-site photovoltaic annual generation of electricity exported to the energy grid (kWh_{el}/y);
- EE_{imp} (kWh_{el}/y) and $TEng$ (kWh_{th}/y) are the final energy imported from the outside of the system boundaries for electric and auxiliary thermal needs of the LH, respectively;
- w_{PV} is the primary conversion factor for the electricity produced by PV (kWh_{pr}/kWh_{el});
- w_{grid} and w_{ng} are the primary conversion factors of the final energy carriers (kWh_{pr}/kWh_{el});
- $EE_{i,a}$ represents the annualized initial embodied energy of the building. It accounts for the building envelope components, technical systems materials and construction phase;
- $EE_{r,a}$ is the annualized recurring embodied energy;
- DE_a is the annualized demolition energy.

All the energy terms are expressed in kWh primary energy per year, while the weighting factors are expressed in ($kWh_{primary}/kWh_{delivered}$).

Figure 3-2 shows the relative role among embodied energy (initial and recurring), demolition energy and operating energy, valued as primary energy for the case study, calculated by means an LCA analysis, with the aforementioned assumptions.

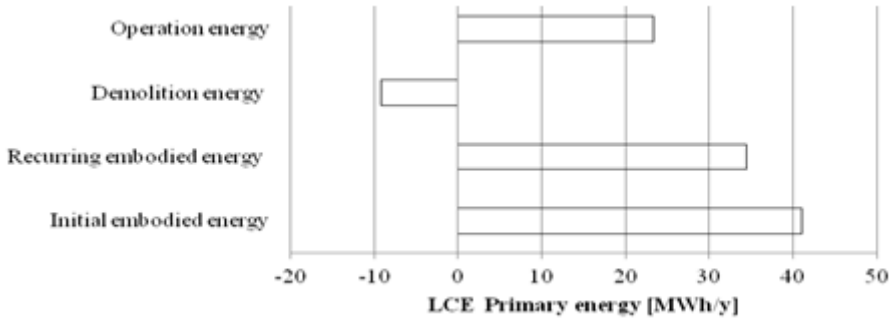


Figure 3-2. Relative share among the yearly energy balance terms

Globally, the building embodied energy EE , considered as the sum of $EE_{i,a}$, $EE_{r,a}$, and DE_a , results around 66 MWh/y. When the EE is accounted in Eq. (4) the annual primary energy deficit rises from 31 MWh/y (only operating energy) to 97 MWh/y. Although in most standard buildings the operation phase is the most impacting in its whole life-cycle, this is not true for high performance buildings, where the major focus is in high performance components of the en-

velope and HVAC elements. Therefore for such buildings, the other steps of the life cycle of the building cannot be disregarded and must analysed as well, since they usually are more relevant than the use phase itself.

3.2.2. The case of a sheet forming operation

The chapter aims to contribute for filling this knowledge gap in order to offer the first environmental guidelines for Single Point Incremental Forming (SPIF). In particular, the influence of the most important process parameters on process energy consumption is analyzed. A wide experimental campaign at varying of product shape, tool path and feed rate was developed. For each parameter configuration, proper power measurement devices were utilized to quantify the electricity consumption at each step of a working cycle (during the forming phase). Time study is performed to identify different operational modes of the considered machine tools and their respective share in the covered time span. The machine is monitored all along a working cycle; the identified time modes will begin from the machine tool start-up, over the use phase to final switch off. Furthermore, a database of power profiles is proposed which will quantify the energy consumption for each step of the incremental forming process. One of the main results of the chapter is to discriminate whether energy consumption during idle times is predominant or negligible in comparison to the actual forming action.

Moreover, the present study outlines the process parameter effect on the electric energy consumption of forming stage; finally, some energy saving strategies for incremental forming processes are proposed. Single Point Incremental Forming (SPIF) is a flexible and cheap forming process. General purpose CNC work centres are typically used, equipped with a hemispherical forming tool and a very simple frame to firmly hold the worked sheet. For the present study, an experimental investigation was performed at the Laboratory of Manufacturing Technology of the University of Calabria. The experiments were carried out on a vertical milling machine Mazak Nexus 410A, that is a 4-axis CNC work centre. By taking into account the aim of the study, the work centre was equipped with an energy power meter directly connected to the machine electric cables and linked to a wireless data acquisition system. Actually, the utilized device is able to measure the instantaneously absorbed power, while the energy is calculated at the end of each test as the integral of the power distribution over the time. The clamping equipment ensures high rigidity during the experiments and was mounted on the machine. The clamping system consists of 16 bolts screwed in semi-automatic way. A hardened steel hemispherical tool completed the equipment and an emulsion of mineral oil was used as lubricant to reduce the related friction phenomena.

In SPIF process the punch moves along a predefined tool path which is defined by spires able to impress a final shape by using a numerically controlled

machine. As a consequence, the process is characterized by a drawback related to huge cycle time because it depends on the path followed by the punch to form the required shape. First of all, a careful time analysis of SPIF process should separate recurring and not recurring operations. More in particular, machine start-up or tool set-up are typically steps over day or batch rate; on the contrary, there are other sub-steps which are repeated for each produced part and which have to be associated to the actual production phase. The division between recurring and not recurring operation depends on the possibility to repeat the process more than one time before to shoot down the work centre. Experimental measurements on each step were preliminarily made to quantify the impact of each phase (recurring and not recurring one) on the total cycle time.

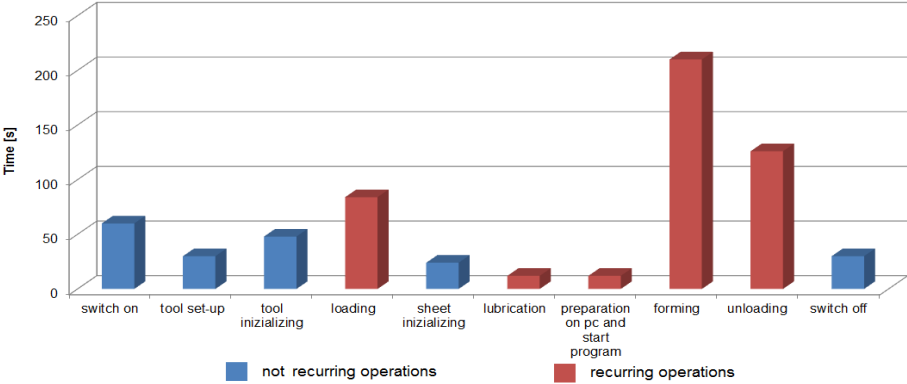


Figure 3-3. Time study for the whole SPIF cycle

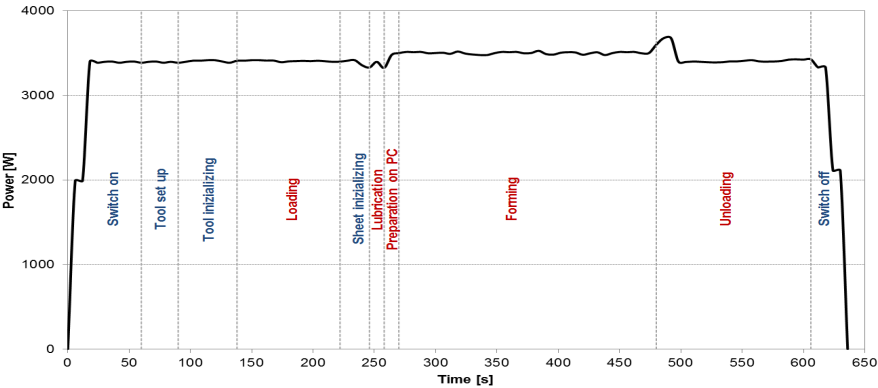


Figure 3-4. Power profile of investigated SPIF process

The result of the time study is synthesized in Figure 3-3. Actually, the production phases characterizing a SPIF process can be summarized in loading,

forming and unloading. Loading phase includes new sheet positioning, lubrication and PC set-up. The unloading phase consists of work piece removing and milling machine cleaning. Both loading and unloading phases are semi-automatic operations, whose time depends on operator efficiency. Forming operations consist of both starting program on the machine control and work piece forming.

As it can be easily concluded the impact of not recurring operations is about the 30% of the other ones, which is significant if considered over the production of a single part, but it becomes not relevant with respect to a batch production. At the same time, the cycle time is strongly affected by the forming step. The latter, in particular, is influenced by the geometry and the adopted process parameters; for instance, the time required by the forming operation is fully influenced by the step size. Similarly, the unloading and loading operations are affected by the worker efficiency; in this preliminary investigation, these times were obtained over ten measurements by taking into account two distinct operators. Similar analysis was performed to detect the power profile along the whole process cycle for the production of a single part. Measurements are stored every six seconds, obtaining a power profile reported in Figure 3-4. The influence of the pumps which ensure the machine oil cooling was neglected during the experimental monitoring; this choice was done because the pump action is random and could penalize the quality of the results. The above distribution allows to conclude that there is no significant difference between the Standby/Production ready and the production modes; this means that the large quantity of power is absorbed to keep turned on the CNC work centre (i.e. the fixed power level is very high). Neglecting the transitory, which corresponds to the switch on and switch off phases, the power profile shown in Figure 3-3b, allows to highlight two main power levels: the standby/production ready power level of approximately 3.4kW and the productive (forming) power level of approximately 3.5kW. Based on these levels, the power absorbed during the standby/production ready power level is 100 W less than the power measured exclusively during forming operation. However, the forming step gives a relevance in terms of duration; for this reason it is interesting to apply a sort of sensitivity analysis at the varying of the process parameters on this process step. According to that, in the further investigation, the not recurring steps were not considered and the attention was only focused on the repetitive operations for each manufactured part (i.e. loading, forming and unloading). Since the aim of the analysis concerns the quantification of energy required by SPIF operation, a preliminary approach was pursued using an orthogonal plan of experiments during the investigation. Naturally, by taking into account the knowledge base on SPIF, the emphasis was pointed on those parameters which give direct influence on the process duration; while the others were kept constant in order to reduce the number of experiments. More in details, a tool diameter of 18mm was used for all the tests and aluminium alloy sheet (AA1050), 1 mm thick,

were worked. On the contrary, the tool step size (p), the tool speed rotation (S), the feed rate (F) and the product shape were changed. The step size was varied between 0.5mm and 1mm.

The tool feed was changed in the range [2000 – 8000] mm/min; as a consequence, the tool speed rotation was properly maintained between 200 and 600 r.p.m. to guarantee the relative velocity at the interface tool – sheet equal to zero. Finally, both a frustum of pyramid and a frustum of cone were chosen as benchmark geometries; however, the geometrical dimensions of both shapes were kept constant to make the results comparable: major base = 140mm, final depth = 40mm and wall slope angle = 42°.

Loading and unloading operations are not influenced by the investigated parameters, thus power, duration and energy measured during the whole experimental campaign can be considered all together in term of mean value. The main differences between the two steps concern the duration; more in detail, the mean value concerning the loading phase is equal to 80 s, whereas the one related to the unloading is equal to 120 s. This difference is due to the fact that the unloading phase is always longer due to higher difficulty in extracting the formed component and worse positions of the operator in terms of ergonomics. On the other hand, the processing phase cannot be considered in terms of mean value since both power and duration (and finally energy) are affected by the process parameters. As already mentioned, the energy demand for the forming phase is strongly affected by the process parameters.

Synthetic representation of the experimental investigations is reported in Table 3-1 where the mean values of absorbed power and duration are reported for each test configuration; more in particular, the mean value were considered on the basis of the five repetition for each configuration.

Table 3-1. Mean values of the experimental parameters

#	Shape	Feed [mm/min]	Speed [rpm]	Pitch [mm]	Mean Power [W]	mean Duration [sec]	Energy [kJ]
Test 1	Frustum of cone	2000	200	1	3221	246	792,36
Test 2		2000	200	0,5	3174	420	1333,08
Test 3		8000	600	1	3258	90	293,22
Test 4		8000	600	0,5	3234	144	465,69
Test 5	Frustum of pyramid	2000	200	1	3197	315	1007,06
Test 6		2000	200	0,5	3139	538	1688,78
Test 7		8000	600	1	3295	115	378,92
Test 8		8000	600	0,5	3184	184	585,86

Some general conclusions can be addressed from the above reported values: it is worth pointing out that the mean power is quite constant among the eight configurations, while the relevant difference is related to the duration of forming step; as a consequence, the energy required changes significantly.

As far as the process parameters are concerned, the following conclusions can be assessed:

- product shape: the production of a more ‘homogeneous’ geometry, (frustum of cone obtained by circular spires), requires the same average power level of a more complex one (frustum of pyramid characterized by the presence of sharp-corners). The lower energy measured for the frustum of cone, is due only to the shorter tool path length which results in a shorter process duration;
- tool pitch: increasing the tool pitch implies a energy consumption reduction, mainly due to the process time variation. As well, the product quality decreases if large step size is used, therefore this parameter should be fixed considering both the reduction of energy consumption and the quality specifications imposed by the design;
- feed: it is the most significant parameter; the comparison between the power profile obtained for Tests 1 and 3 (Figure 3-5) helps to highlight that the small increment of the power value due to the high speed is completely balanced by the shortest process duration. In this way, strong reduction in the total energy demand is obtained.

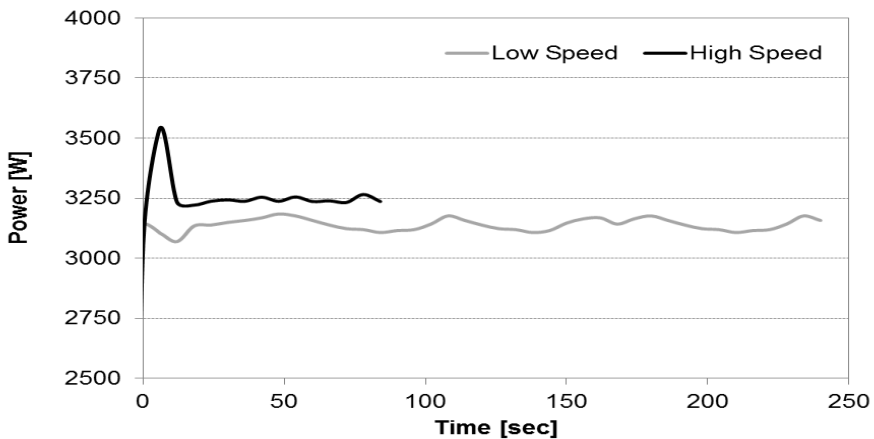


Figure 3-5. Comparison between the power profile obtained for Test 1 (F=2000mm/min, S=200rpm) and Test 3 (F=8000mm/min, S=600rpm)

3.3. Conclusion

3.3.1. Building analysis conclusions

The introduction of the energy life-cycle approach in the traditional operating energy consumption assessment approach allows comparing the embodied energy plus the primary energy used in building operation together with the energy generation produced by on-site renewable systems. Such an approach allows to assess the magnitude of the deficit from the net zero target according to a life-cycle approach; and to point out the relative importance of operating and embodied energy in Net ZEBs: as long as operating energy keeps diminishing the share of embodied energy on the total Life-cycle energy balance keeps growing, reaching eventually the 100% in Net ZEBs. Obviously, the introduction of the life-cycle analysis increases the complexity of the energy balance calculation and introduces a further deficit in the energy balance from the neutral condition. However, it emphasizes the embodied energy of the building as a key issues to not be neglected in the exhaustive evaluation of the energy demand of low energy buildings.

3.3.2. Manufacturing analysis conclusions

In this study an analysis on the process energy required for SPIF operations was developed to quantify the consumptions during any process phase. Accordingly, different parameters were changed in a proper range. Some general conclusions have been derived:

- the energy related to not recurring operations is negligible, if the machine tool is never switched off over a long cycle time; on the contrary, the energy required for material loading and unloading is not negligible;
- the energy required for SPIF process is strongly related to the process duration due to the machine consumption;
- more efficient approaches, that includes faster loading/unloading devices and high speed machines, are finally suggested in order to optimize the process duration.

Switching off optimization strategy of the not necessary subunits could be implemented to reduce the power level during the Standby/Production ready.

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4. FOREIGN DIRECT INVESTMENT AND THE TOURISM SECTOR IN KENYA

ABSTRACT

This chapter reviews factors affecting the flow of foreign direct investments to Kenya, with reference to the tourism sector.

KEY WORDS:

foreign direct investment, Kenya, tourism

4.1. Introduction

Developing countries are looking at tourism as a potentially promising avenue for economic and human development. This is a relatively new position for some countries, and reflects the rapid increase in tourism in terms of both numbers of arrival and revenue for several economies in recent years. 'Traditionally', tourism was placed below manufacturing or agriculture, because it was not considered a significant or appropriate source of growth. However, these views have evolved with time. Revenue proceeding from tourism, in several countries have subsided those from the traditional sectors of agriculture. at times even manufacturing. The tourism sector is heavily contributing in the labour market, creating jobs for the youth, both male and female, and thus promoting job diversification, hence a more service oriented economy. This move is considered positive, in that, it is aiding in the revival of the declining urban areas and cultural activities. At the same time transforming remote rural areas.

Foreign Direct Investment – FDI is one of the routes through which developing countries can carry out tourism, however, the dynamics within these sector, and what implications it has on given economies is yet to be verified. This is due to the lack in strong research evidence supporting tourism related FDI in the global economy, or its overall impact in economic growth. The reason behind this is that tourism is an industry that needs careful management skills, with or without FDI, and the inclusion of FDI further poses special challenges and concerns.

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4.2. FDI Pattern in Kenya

Foreign direct investments inflow to the Sub-Saharan African – SSA, East Africa sub region, has shown significant changes over the past couple of years in terms of their destinations. The bulk of the cumulative FDI in the East African region was predominantly Kenya, up to the last decade. However, in the recent years, Kenya's neighbouring countries Tanzania and Uganda, have rapidly overtaken it in terms of FDI attraction.

This decline in Kenya's share of inwards FDI compared to its neighbours, has been attributed to factors such as; lack in significant progress, including what can be described as 'stop go' economic reforms, rampant corruption, poor growth performance, deterioration in the quality of infrastructure and raising labour costs, lack in mineral resources that have acted as FDI magnets in other part of the SSA regions (Mitchell&Ashley, p.16).

Since independence (in 1963), Kenya has maintained an open door policy towards foreign investments. However, according to UNCTAD, Kenya's FDI rating has been one characterised by fluctuating influx. On average Kenya, recorded high FDI growth rates between 1970 and 1979, but experienced a rapid decline in the 1980s, when it saw FDI rates drop to as low as \$0.39 million in 1988. In the 90s, the country once again experienced a shape recovery in the inflow of FDI, only to see protracted decline during the second half of the 1990s. FDI inflow to Kenya, during the period 1996-2003 were estimated annually to about \$39 million. Table 4-1. summaries FDI inflow for periods between 2007-2012.

Table 4-1 Direct investment inflow to the Region(millions \$)

Region/Economy	2007	2008	2009	2010	2011	2012
Sub-Sahara Africa	9,654	13,700	12,056	27,153	29,120	32,345
East Africa Community	1,341	1,345	1,424	1,435	1,783	1,941
Kenya	150	120	135	185	195	200
Tanzania	469	370	396	433	938	333
Uganda	263	349	389	817	879	907

Source: Adopted from World Bank Data Website <http://www.data.worldbank.org/> retrieval December 2013.

Though Kenya has had a long history of FDI, it has actually underperformed in comparison to its two neighbouring countries, of Tanzania and Uganda. These two countries, in the past experienced severe political challenges than Kenya did. Tanzania was formerly a socialist country, and did not have an open market system. Uganda In the 1970s and 1980s, was constantly in political crisis. In the 1970s, Uganda was ruled by a ruthless, military dictator, Id Amin Dada,

who after assuming to power, went on to expel all Ugandans of Asian origin in 1972 out of the country. During the same year, he went on further to break ties with its former colonial rulers, and later on declared what was termed as “*an economic war against the imperialist*”. This move led to the seizure and nationalisation of eight-five British owned businesses. The purpose of this piece of history, is to shed light on how Kenya, despite its favourable conditions has continued to underperform in relation to its neighbouring countries. Throughout the period, between 2007-2012, FDI Inflow to Kenya did not surpass that of Uganda or Tanzania, all other factors excluded. During the stated period, the largest Inflow of FDI to Kenya was recorded in 2012, when it increased to a level of \$200 million. While in 2008, a mere inflow of \$120 million worth of FDI was noted, marking the year the worst during this same period.

Despite these shortcomings, Kenya is seen to be the economic powerhouse of the region and has several advantages which sets it apart from its two neighbouring countries, thus;

It is centrally located, and thus internationally considered as strategic.

It has a big port harbour in Mombasa, and is in the process of expanding to Lamu, a city northeast of Mombasa, destined to make it the largest harbour within East and Central Africa. Thus making the country even more accessible to foreign investors,

And it has a large, well educated workforce.

However, despite these features, Kenya continues to lose to its sister countries, due to what can be termed as other placement factors of FDI to host country (Voorpijl, p. 27-28).

4.3. Placement factors affecting FDI in Kenya

The World Bank global report on the ease of doing business 2011 (Doing Business, 2011), ranked Kenya ranked 109 out of a total 183 countries. This was considered pretty good, taking into consideration the previous years, and the overall regional score awarded to the entire East African Community. (East African Community member states are; Burundi, Rwanda, Kenya, Uganda, and Tanzania).

Kenya's downwards shift – 3 points down, compared to the previous year, while Rwanda appreciated – positioned at 45 out of 183, indicates, that while Rwanda improved on aggregate ranking, Kenya declined. It is vital to note that the doing business methodology is not spared off shortcomings. In that, it does not offer indications in all important areas of doing business and is thus, limited to specific types of businesses, which are mainly local liability companies. Reasons behind this as stated by the Doing Business report (2012), results from the fact that data collection, comparisons, and benchmarks, are based on standard assumption across economies. Data collected is not only limited in highlighting the extent of obstacles to doing business, but also helps in identifying

the sources of such obstacles. It can thus, be used by policy makers in designing regulatory reforms needed to enhance businesses in that proximity. Areas not included in the Doing Business data report are those of; Economy proximity to large markets, quality of its infrastructure services – this does not include infrastructure related to trading across borders, getting electricity, security of property from theft and looting, the transparency of government procurement, macroeconomic conditions, and underlying strength of institutions. Table 4-2 indicates Kenya's ranking in comparison to other Eastern African countries.

Table 4-2. Ease of doing business in Kenya ranking as compared to comparator economies 2011

Country	Ranking (Scale 1-183)
Rwanda	45
Kenya	109
Uganda	123
Tanzania	127
Regional Average (Sub-Saharan Africa)	137

Source: Doing Business database; World Bank, 2012.

While Table 4-3 summaries the ease of doing business indicators for the period 2008-2011.

Registering a company in Kenya will take an average of 30 days, while, the cost of processing documents necessary for start ups has been fluctuating between 46.1 percent to 36.5 percent, the lowest recorded in 2010, while, 4 out of 11, of the procedures were not subjected to any fees.

Table 4-3. Summary: Ease of doing business in Kenya 2008-2011

Starting a business data Indicators	Doing Business 2008	Doing Business 2009	Doing Business 2010	Doing Business 2011
Rank	–	–	–	128
Procedures (number)	12	12	12	11
Time (days)	44	30	34	33
Cost (% of income per capita)	46.1	39.7	36.5	38.3
Min. Capital (% of income per capita)	0	0	0	0

Source: Doing Business database; World Bank, 2011.

Table 4-4 demonstrates how the indicators changed between 2011-2012 in comparison to other countries in the region.

Table 4-4. Summary: Ease of doing business in Kenya compared to selected comparator countries – 2011-2012

Starting a business data Indicator	Kenya Doing Business 2011	Kenya Doing Business 2012	Rwanda Doing Business 2012	Tanzania Doing Business 2012	Uganda Doing Business 2012
Rank	128	132	8	123	143
Procedures (number)	11	11	2	12	12
Time (days)	33	33	3	29	34
Cost (% of income per capita)	37.8	38.3	4.7	28.3	84.5
Min. Capital (% of income per capita)	0	0	0	0	0.0

Sources: Doing Business database; World Bank, 2012.

On aggregate, Kenya performed poorly in comparison to its neighbours. Despite a decline in ranking, down by 4 points in 2012 (132) from (128) in 2011, percentage cost of income per capita increased by 0.5 percent. This change in ranking, is vital information for investors in terms of economic regulatory environment. These changes are relative. However, economic condition factors taking place in other countries may likely influence these changes. It is vital to note that though a country may introduce and implement business regulation reforms, the ranking of that country is not guaranteed to improve, but could significantly lower the ranking. This happens when business regulators, lobby on reforms that significantly outweigh the impact of others. Having the possibility to compare the indicators to those of neighbouring ‘competitor nations’, Kenya’s policy makers, have the chance to analyse, and prioritise on areas that require urgent attention. It is thus, vital to note that in order for countries to attract FDI, they first and foremost ought to deal with the policy regulations. This is because, if investors have to choose between similar business conditions and ‘red tape’, they will certainly opt for locations with the most favourable conditions. Based on the indicators above, Kenya does not offer favourable conditions for start-ups. Despite having an open policy long history, It has not managed to create the best friendly practices, that would actually boost the increase in domestic investments, nor has it managed to fully succeed in out beating its foreign investment policy weaknesses. In terms of procedure standing, Kenya counts 11, while Rwanda has only 2. All other factors considered, Kenya in 2012, was positioned at position 132 out of 183, compared to Rwanda’s position 8, out of the surveyed countries. Number of days needed to process these procedures was 33 in Kenya, while it only took 3 days in Rwanda. The cost in percentage per capita income in 2012 was 38.3, to Rwanda’s 4.7. These negative disparities continue to severely hurt Kenya’s competitive attractiveness, and to some extent

continue to put at bay potential investors wishing to venture into the Kenyan market. Figures 4-1 illustrates Kenya's rating based on selected topics.

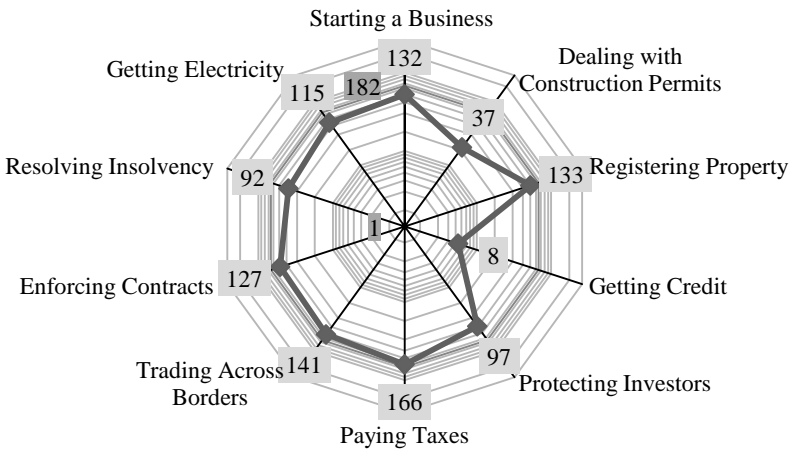


Figure 4-1 How Kenya Ranks on Doing Business: Selected topics

Source: Adopted from Doing Business database; World Bank Report 2012.

This web indicate the distance of Kenya’s selected economy variables to the ‘frontier’. A synthetic measure which is based on the most efficient practice, in other words the highest score observed for each doing business indicator across the economy. Nine variables have been used. Each frontier’s marking point is scaled between 1-183. Thus, according to this web, it is much easier for business to acquire credits – scored at 8 points, than it is to execute taxes – scored at 166 points. Based on this information it is easy to conclude that Kenya’s tax collecting authority is ineffective. Investing in construction – scored at 37 points and getting the required permits is much easier, than it is to applying for electricity connection scored at 115 points away from the frontier. One of the negatives about this web, is that it does not offer detailed comparisons. Thus, may not exactly provide conclusive details, that may aid in decision making due to its static nature. However, it highlights the obstacles likely to be encountered.

These indictors may change on an yearly basis. Though may not always reflect the actual changes in the business regulatory environment. What is crucial is for investors to assess the shift in distance from the frontier. By so doing investors are likely to determine if the shift is an actual change or not. Table 4-5. summaries Kenya’s progress in enhancing businesses start ups for the period between 2004-2012.

Table 4-5. Ease of starting a business in Kenya for the periods 2004-2012

Indicator	Rank	Procedure (number)	Time (in days)	Cost (% of income per capita)	Paid-in min. Capital (% of Income per capita)
2004	..	12	60	51.7	0.0
2005	..	12	47	53.4	0.0
2006	..	13	54	48.2	0.0
2007	..	13	54	46.3	0.0
2008	..	12	44	46.1	0.0
2009	..	12	30	39.7	0.0
2010	..	12	34	36.5	0.0
2011	128	11	33	38.3	0.0
2012	132	11	33	37.8	0.0

Data not applicable for ranking for the period 2004-2010

Source: Own compilation based on: Doing Business database; World Bank, 2012.

FDI in Kenya is thought to have played a major role in the tourism sector. However, what is not properly understood is its true economic dynamics. Thus, the linkage between FDI in tourism to the country's economy, due to scarcity in the availability of data, covering the level of correlation between the two.

4.4. FDI and Tourism

In a study carried out by the UNCTAD (United Nations, 2008), comprising of a total 35 hotels and restaurants, 30 tour operators/travel agents, 14 suppliers of goods and services to hotels and restaurants, it was revealed that 57 percent of the hotels/restaurants and 75 percent of all the tour operators/agencies were all locally owned. These findings disputed a widely held notion that foreign investors dominated the tourism sector in Kenya. According to the findings of the study, a majority of the owners were locals of Asian and British origin. This type of ownership, exceeded that of indigenous Kenyans. Though it was also noted, that a great deal of ownership belonged to them too.

On the other hand, according to the Kenya Tourist Board (<http://www.ktb.go.ke>) and The Kenya Tourist Development Corporation (<http://www.ktdc.co.ke>), 63.7 percent of the hotels in Kenya were locally owned, with another 22.6 percent under joint venture, and only 13.7 percent of the hotels were foreign owned. Table 4-6 highlights a cross section of ownership by nationality of selected beach hotels in Kenya.

Table 4-6. Ownership of selected beach hotels in Kenya

North Coast		
Hotel	Main Owner	Nationality
UTC	Ketan Somaia	Kenyan
Voyager	Mama Ngina	Kenyan
Baharii beach	Mahihu	Kenyan
Mombasa beach	Semi-government	-
Reef	Sodhi	Kenyan
Bamburi beach	Merali	Kenyan
Sarova Whitesands	Sarova Family	Kenyan
Boabarb Holiday Resort	–	Chinese, Kenyan
Severin Sea lodge	Severin	German
African Safari Club	Dr. Rundel	Swiss
Serena Mombasa	Aga Khan	Kenyan
Sun n'Sand	–	Kenyan
South Coast		
Indian Ocean beach	Karume	Kenyan
Southern Palm	–	Kenyan
Leisure Lodge	Kantaria	Kenyan
Leopard Beach Hotel	Singh	Kenyan
Diani Sea Resort	–	German
Diani Sea Lodge	–	German
LTI Kazi Kaz	–	German
Two Fishes	–	Kenyan
Alliance Hotels	Matiba	Kenyan
Lagoon Reef	–	British
Boabab beach	–	TUI/ Kenyan
Neptune	Merali	Kenyan

Source: Adopted from United Nations Conference on Trade and Development, United Nations, 2011.

There are about 168 classified hotels in Kenya, totalling up to 29,285 beds. Out of these hotels, 50 are situated in Nairobi, the countries, capital city, 27 in Mombasa, 23 in Malindi, Kwale with 11, followed by Nakuru and Elburgon with 10. In addition to the classified hotels, there are 1,078, unclassified hotels and restaurants registered with the ministry of tourism and wildlife. Tour-

ism accommodation is also available in private villas and homes, with only 400 of them so far registered (United Nations, 2010). Table 4-7 highlights the hotel classifications.

Table 4-7. Number of classified hotels, by class, ownership and region

Region	Number of hotels by class						Ownership		
	1-Star	2-Star	3-Star	4-Star	5-Star	Total	Local	Joint-venture	100 % Foreign
Nairobi	5 (435)	12 (1,506)	2 (3,084)	2 (230)	10 (3,823)	50 (9,078)	39	4	7
Nyeri	—	1(182)	2(190)	2(198)	—	5(570)	3	1	1
Kilifi	1(168)	2(90)	—	1(600)	1(600)	5(1,458)	2	2	1
Kwale	—	6(831)	3(3,132)	2(620)	—	11 (4,583)	6	3	2
Mombasa	2 (182)	13 (2,143)	7 (1,621)	4 (348)	1 (716)	27 (5,010)	11	13	3
Tavaeta	—	1(104)	—	—	—	1(104)	1	—	—
Embu	1(85)	—	—	—	—	1(85)	1	—	—
Machakos	1(118)	—	—	—	—	1(118)	1	—	—
Meru	2(114)	—	—	—	—	3(239)	3	—	—
Kisii	1(80)	—	—	—	—	1(80)	1	—	—
Kisumu	2(160)	1(140)	—	—	—	3(300)	3	—	—
Malindi	1 (280)	15 (2,427)	5 (1,380)	1 (278)	1 (154)	23 (4,519)	10	7	6
Baringo	—	—	1(96)	1(170)	—	2(266)	—	2	—
Kajiado	—	—	—	—	—	—	—	—	—
Kericho	1(130)	1(177)	—	—	—	2(207)	2	—	—
Laikipia	—	1(133)	—	—	—	1(133)	1	—	—
Nakuru & Elburgon	1(120)	6(335)	3(274)	—	—	10(729)	8	1	1
Narok	—	—	1(155)	—	1(168)	2(323)	2	—	—
Samburu	—	—	—	—	—	—	—	—	—
Kitale	1(24)	—	—	—	—	1(24)	1	—	—
Eldoret	1(82)	1(210)	—	—	—	2(292)	2	—	—
Webuye	1(50)	—	—	—	—	1(50)	1	—	—
Kakamega	—	2(159)	—	—	—	2(159)	2	—	—
Nanyuki	—	—	2(165)	—	1(230)	3(395)	1	2	—
Thika	—	1(64)	—	—	—	1(64)	1	—	—
Voi	—	2(88)	1(104)	—	—	3(192)	2	1	—
Naivasha	—	2(151)	3(164)	—	—	5(315)	3	2	—
Total	21 (2,028)	70 (8,732)	50 (10,49)	12 (2,444)	15 (5,691)	168 (29,385)	107 (63.7%)	38 (22.6%)	23 (13.7%)

* In brackets is the number of beds per hotel.

Source: Adopted from Government of Kenya, Ministry of Tourism and Wildlife, 2011.

Majority of the classified hotels can be found in Nairobi, where 39 out of the total 50 are locally owned, and with a total bed capacity is 9,078. Mombasa follows with a total bed capacity of 5,010, and a total of 11 hotels locally owned, Kwale comes third with a total bed capacity of 4,583, and 6 out of the total 11 hotels are of local ownership, Malindi has a capacity of 4,519 classified hotel and 10 out of the 23 hotels are also locally owned.

Registered tour operators and travel agents is totalled at 2,075. 76 percent of these, are located in Nairobi and Malindi. Locally owned tour operators and travel agents accounts for 74 percent of the overall total, another 17 percent is jointly owned and only 9 percent is foreign investment.

The capacity in turnover, profits, and taxation between foreign owned and local establishments is of no major difference. However, there is a distinctive difference between the amount of purchases between local establishments and those of foreign investments. Hotels with foreign ownership, register much higher purchases. Most of these purchases are sourced from wholesalers and distributors, while those from SMEs are miniature.

The tourism sector is very closely linked to other sectors of the local economy, such as agriculture, transportation and manufacturing. Each of these sectors benefits as a result of the interdependency involved. Evidence indicates that only 17.3 percent of consumer goods and services in the tourism sector were imported (United Nations, 2010).

Demand for technology in the tourism sector is on the raise. Since IATA, revolutionised the airline sector, by ordering the termination in issuance of paper tickets to the benefit of e-tickets. Online bookings has been on the increase, and thus an increased demand for faster Internet connections. Online booking allows tourists to solely make their own travel plans. They can book and purchase plane tickets, hotel room, etc, at the comfort of their homes.

Employment in the tourism sector, is largely seasonal, and does not seem to vary significantly between foreign owned and locally owned establishments, neither does it discriminate in gender employment distribution. What seems surprising, albeit expectations, is that locally owned establishments employed more qualified staff than their foreign counterparts.

A critical assessment of the tourism sector, indicates that Kenya is confronted with major economic problems and structural deficiencies. This in turn has raised questions in the role of the industry in promoting the country's long term sustainable socio-economic development. The government is at the forefront advertising Kenya as a holiday destination, but has failed to seriously address the social degradation that comes along with it. As tourism researchers question on the role, tourism plays on social-economics. I. Sidinga (2009), notes that in an over stretch of more than ten years, the benefits of tourism have substantially been overestimated. He argues that the industry's negative social and environmental impacts have most often than not been downplayed. This prompts one to conclude that the manner in which tourism in Kenya is been developed ren-

ders the industry incapable of promoting sustainable long-term social and economic development.

The UNCTAD (United Nations, 2008) study indicated that some investors in the tourism industry undertook environmental activities seriously and thus preserving it through tree planting, landscaping, installation of energy saving technology, borehole construction and water conservation. Though is stipulated by the National Environmental Management Authority – NEMA, which demand that hotels undertake an environmental audit. environmental conservation and degradation ought to be prioritised and strictly controlled not only by governmental regulatory bodies, but also by all stake holders in the tourism sector, no matter the origin of the investor.

The financing system in the tourism sector is generally through loans and equity. About 53 percent of the loans are through commercial banks, and 21 percent from equity, while a combination of both stands at 16 percent. However, it is worth noting that though bank loans account for 53 percent of the financing system, Hotel expansion and renovations is not financed through this system, but through private-owned funds. This therefore, opens up an avenue to which the sector could seek to team up with foreign investors for extra findings.

Table 4-8. Illustrates the average profit, taxes and turnover of hotels by category of ownership

Category Ownership	Number of rooms	Profits	Taxes	Gross turnover
100% local ownership	169.4	79.1	100	258
1-100% foreign ownership	219.4	144.4	150	457
41-80% Foreign ownership	216.0	192.5	–	413
81-100% Foreign ownership	220.4	103.2	150	470
Total	189	94.0	117	343

Source: Own compilation based on data from www.africaneconomicoutlook.org/Kenya/2012/retrieval December 2013.

Studies carried out to analyse the feasibility between local and foreign owned establishments, did not reveal any significant difference in turnover between the two. What slightly differed was the origin of tourist bookings. It was revealed that foreign owned establishments recorded a higher number of foreign tourists, but less domestic ones, and vice versa (www.africaneconomicoutlook.org).

4.5. Untapped potential; the way forward

The tourism sector in Kenya is under 'exploited', despite it holding a lot of potential that is untapped. Therefore in order to attract increased FDI, as well as, local investors to the sector, several factors need to be taken in to consideration, thus;

Infrastructure. Though the government has taken strides to improving the infrastructure, much still needs to be done, especially in the improvement and construction of road networks, railways and increased energy supply. This goal can well be reached by including the private sector in the development of the infrastructures while offering tax rebates.

Improving the business climate. Stern and urgent policy changes, as well as, their immediate implementation. Kenya is at the losing end, if one takes into consideration all the factors affecting the ease of doing business report. Burdening and prolonged procedures to set up businesses, unnecessary bureaucracy, and rampant corruption. This factors reduce the competitive attractiveness of the country as a conducive place for fairly doing business. Efforts to simplify and reduce the licensing requirements, streamlining and harmonizing the tax regime, making available long-term credit on favourable terms for expansion and relocation, as well as, organising beach operators is worth reviewing. There is an urgent need at revisiting the incentive policies granted to encourage FDI. So that they do not only benefit foreign investors, but also be of benefit to domestic investors, as well as, the local economy at large.

Regional integration. This is yet another area worth looking at and will demand for much greater ties with other African countries, at the same time strengthening ties and co-operation within the East African community. Especially in areas of common interest, such the formulation of regional classifications and standardisation criteria for hotels, lodges and restaurants, as well as, environmental conservation.

Tourism is seasonal and due to this, employment and revenue during the low season periods is reduced. Therefore, there is need for a snap and active involvement of both the tourism sector, as well as, government institutions in promoting domestic tourism. These would ensure continuity in both employment and revenue during the low seasons. In order to do so, promotion campaigns that would create awareness, by educating especially the hotel staff and tour operators on the importance of domestic tourism. This, would therefore enhance in installing an attitude change in handling domestic tourists. Tourist product diversification, as well as, the full implementation of the FDI incentives, described in the box 1.1. would be a boost to the sector.

Table 4-9. Proposed FDI Incentives in the draft of National Tourism Policy

The Government of Kenya recognises the importance of attracting FDI in order to achieve the growth and development objective of the tourism sector. Foreign Investment is expected to increase competition and improve standards, as well as create employment and facilitate economic growth.

The Government aims to establish a climate of political stability, economic growth and profitability, and provide transparent, stable and consistent policies to attract foreign investment, and through the Kenya Investment Authority, to provide an effective 'one stop shop' for the facilitation and processing of foreign investment.

In order to ensure that the tourist product is both up to the standard and offers value for money, the Government shall continue to offer Tax and other incentives to investors so as to encourage upgrading of existing tourist accommodation facilities and investment in new facilities. Incentive whether tax-related or otherwise, shall not be limited to the accommodation sector alone, but shall also include operators of other tourism services.

Particular attention shall be given to investment incentives for previously neglected regions and well-organised community-based tourism projects. Tourism incentives schemes shall be in accordance with overall government policy in this regards, and may include special tax relief on hotel construction, provision of long-term and soft loans, VAT exemption for small hotels and restaurants, accelerated depreciation and waiver of import duties for buildings related to hotel services.

Other policy strategies for investment and financing will include:

- Promotion of tourism as a priority sector for domestic and foreign investment;
- Establishment of a favourable fiscal, legal and regulatory framework;
- Dissemination of information about tourism investment opportunities to domestic and international investor and developers, including the streamlining of investment procedures, in order to attract investors;
- Provision of fiscal and non-fiscal incentive to investors;
- Progressive reduction of VAT on tourism as new sources of sustainable funding are identified;
- Duty free importation of solar energy equipment and other items needed for meeting environmental standards; and
- Promotion of proactive form of community partnership, especially through joint venture with the private sector and state conservation agencies.

Source: Adopted from Ministry of Tourism, Kenya Government, July 2013.

4.6. Conclusion

Kenya's history of open market policy has so far been faced with lots of hiccups, in comparison to its neighbour countries despite been the economic powerhouse of the region.

The economic advantage of Kenya which is mainly attributed not only, but to her geographical and human resource advantage, have not fully been exploited, despite the possessed potential. On the other hand, the doing business report analysis, leaks in more weaknesses, tinting on her competitive attractiveness towards increased FDI.

Despite, the vices, tourism in Kenya is big business, and FDI is likely to make it even greater. The financing system, as discussed does not offer loans for expansion and renovations to the already existing establishments. This is due to the seasonal nature of the sector. Noting, that only 21 percent of the funding originated from equity. It is therefore right to conclude that there is need for foreign funding, that would finance such ventures as expansions or even renova-

tions. Therefore by putting in place attractive incentives policies, there is a likelihood to attract increased FDI into the tourism sector.

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5. ENVIRONMENTAL AWARENESS AND SUSTAINABLE DEVELOPMENT IN RUSSIA: THE CASE OF KRASNODAR REGION

ABSTRACT

The level of environmental awareness in Russia traditionally is very low comparing to EU. Nowadays this problem became an obstacle for innovative development and diffusion of new energy efficient technologies. In this chapter we present the results of empirical research aiming evaluation of environmental awareness in one of the southern region of Russia – Krasnodar region. This region is an interesting research object because it has a number of popular summer and winter resorts which are currently promoted as tourist areas and hosts the Olympic Games in 2014. In research we also evaluate the informational transparency in the field of ecology in Russia and distinguish the most popular sources of information.

First part of the chapter is devoted to description of methodology of research and the main characteristics of the group of respondents (number, social and age distribution, representativeness). The second part presents the results of statistical nonparametric analysis of data. The positions of the reasons to practice or not to practice pro-environmental behaviours were visualized using multiple correspondence analysis. In the third part some conclusions on the reasons for low environmental awareness are drawn and some activities aiming promotion of people's pro-environmental behaviours are proposed.

KEY WORDS:

environmental awareness, pro-environmental behaviours, informational transparency, sustainable development, regional economy, nonparametric analysis, multiple correspondence analysis

5.1. Introduction

To develop the low-carbon society, in addition to the efforts by governments, industrial and commercial sectors, promotion of the level of environmental awareness of people has become one of the key issues. The studies of environmental awareness or, the so-called, people's pro-environmental behaviours (PEBs) became a popular topic in Europe, North America and Asia [1], but not in Russia. Russia, as a country with abundant natural energy resources, has in-

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herited a very energy-intensive economy model from the times of plan-based economy and still has one of the lowest electric power and heat tariffs in the world. Currently, the Russian economy stays about two and half times less energy efficient and more carbon intensive than other comparable modern countries. The Russian government has initiated some environmental policies and legislation in order to develop and implement a successful resources savings strategy only in 2009. That's why general population on its own has not yet embraced energy efficiency and other PEBs as a social value.

Many studies investigated some PEBs very carefully (Abrahamse et al., 2005) and basically it was revealed that monetary saving and health concern are considered to be the most common influential factors for many PEBs (Lee, Kurisu&Hanaki, 2013). In (Schultz, 2002; Kollmuss&Aguman, 2002) it was also shown that even if people do have a high awareness of environmental issues, there are many internal and external barriers to taking actual action. Although people may intend to practice PEBs, various factors such as traditional values, lifestyle, and surrounding circumstances can influence their behaviour.

In this chapter the purpose of investigation is not only the evaluation of readiness to demonstrate pro-environmental behaviours or external barriers to it, but also the influence of usual information sources on public opinion about the importance of environmental issues and the value of PEBs, including the use of energy-saving and alternative energy technologies.

5.2. Materials and methods

5.2.1. Questionnaire design

The method of research is medium-scale face-to-face inquiry. The use of a questionnaire as an instrument of research was considered to be the most appropriate method of gathering data for this particular piece of enquiry. In order to encourage a high response rate the questionnaire was designed relatively simple and short, divided into sections with a variety of question formats.

The first part of the questionnaire consists of 7 questions with several (up to 10) options of answer each. Their design meets the purpose of revealing the respondents' attitude to the problems of global climate change, environmental issues, their tendency to demonstrate pro-environmental behaviour and determining the main sources of information about environmental problems. The second part of the questionnaire has 10 statements (S1-S10) about the transparency of environmental information, the economic policy in the country, the level of environmental awareness, the knowledge about energy saving technologies and the level of education in the field of ecology and sustainable development. The degree of respondent's agreement to these statements is scaled in 5-points Likert scale. The third part of the questionnaire has a number of personal

questions such as type of accommodation, place of residence, age, gender and profession of responder.

Talking personally to the respondent was considered to be the best way to understand their opinion deeper and ask some additional questions if needed. It gives the survey some features of a case study. According to (Yin, 2002) a case study is an empirical enquiry that investigates a phenomenon in a real life context. It can include both quantitative and qualitative paradigms, rely on multiple sources of evidence, use a number of different research tools and benefit from the prior development of theoretical propositions.

5.2.2. Survey and analysis

The survey was conducted in the Krasnodar region (Russia). The Krasnodar region has very good natural conditions for the development of all basic renewable energy sources (such as wind, solar, thermal, biomass). Relatively low level of centralization of population and economic activity in the major cities gives the region some extra possibilities to develop pro-environmental energy saving technologies for individual households. Good environmental conditions are very important for socio-economic development of this southern region, which is currently promoted as a tourist area.

The survey involved 112 respondents, the sampling structure is shown in Figure 5-1, 5-2.

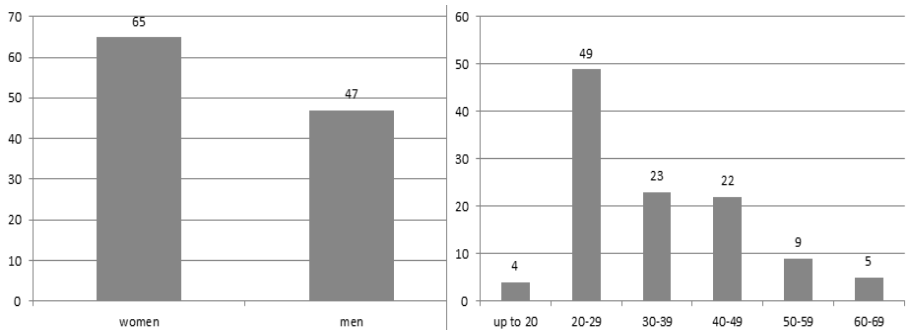


Figure 5-1. Demography structure of the sample

Data analysis was performed using StatSoft STATISTICA 10.0. Due to the fact that the data was measured in weak scales, did not meet the normal distribution and the size of the individual groups in the sample was small, the non-parametric Mann-Whitney tests and Kruskal-Wallis one-way analysis of variance were used. These statistical techniques were used to reveal the optimal quantification that describes the relationships between the categorical scores of each variable as well as the relationships between the variables themselves.

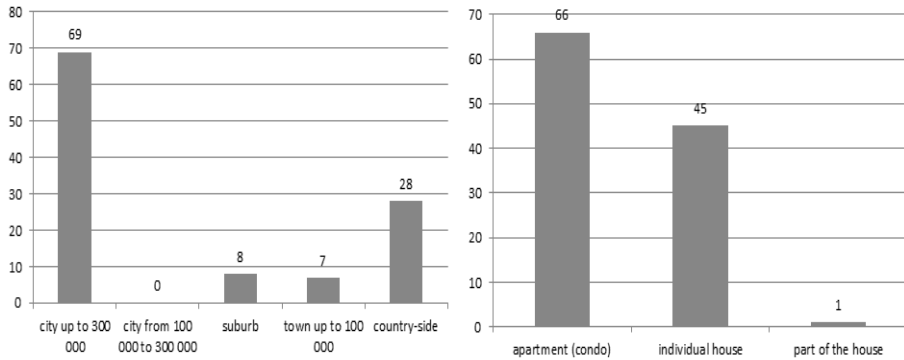


Figure 5-2. Social structure of the sample

In order to identify relationships between variables, measured in nominal scales, contingency tables (cross tabulation) were used. In some cases (where it was appropriate) correlation analysis and one-way ANOVA were used.

5.3. Results and discussion

5.3.1. The level of environmental awareness and the main sources of information

The vast majority of respondents (95%) believe that global climate change is indeed taking place, with 46% of respondents believing that the main cause of climate change is in economy activities, 18% tend to associate climate change to natural causes, and 31% of respondents believe that both factors are essential (Figure 5-3).

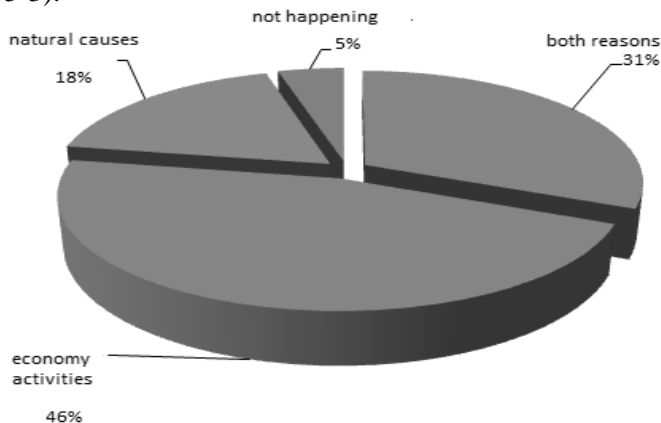


Figure 5-3. The responses on the question about reasons of global climate change

Again, the vast majority of respondents (98%) expressed their concern about the environment. Only 2 people out of 112 respondents did not indicate any concern to any ecology problems. Most often, respondents noted from 3 to 5 environmental problems (57.1% of respondents), 8% of respondents answered that all 10 environmental problems listed in the questionnaire are a topic of concern. The most frequently cited environmental problems are the air pollution (67%), water pollution (65.2%) and deforestation (52.7%) (Figure 5-4). The accumulation of toxic (including radioactive) waste is a topic of concern for 50.9% of respondents, soil contamination and genetically modified foods were mentioned by 46.4% and 45.5% of respondents correspondingly. Least likely respondents mentioned such environmental problems as depletion of mineral supplies (19.6%) and loss in biodiversity (30.3%).

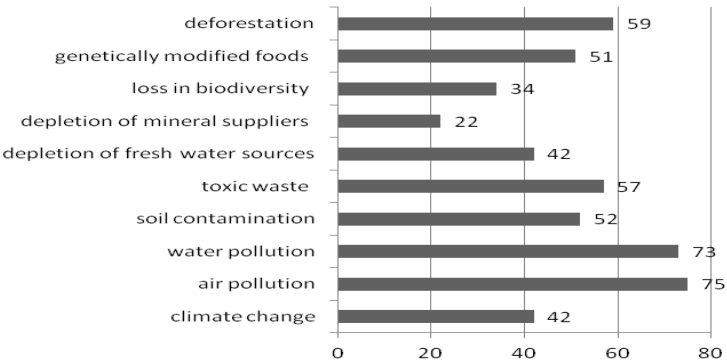


Figure 5-4. The responses on the question about the issues of concern

Cross tabulation of socio-demographic characteristics and noted ecology problems revealed that residents of a city with population more than 300 000 have higher concern about the water pollution than others (statistical level of Pearson χ^2 is 0.075).

The most popular source of information about the environment, as expected, is the media. 77.7% of respondents indicated that they use this source to get information about environmental problems (Figure 5-5). The second most popular source is the official statistics (39.3% of respondents noted it). It should be mentioned that many respondents take the data, which is also given in the media, as official statistics rather than gather the information directly from statistical compilations. The least frequently used sources of information are professional activities (12.5% of respondents) and reports of international organizations such as the World Health Organization, the World Bank, OECD and others (15.2% of respondents).

Almost 40% of respondents regularly use two sources of information, 27.6% – three sources of information, 22.3% of respondents – only one source of in-

formation. As ANOVA tests have shown, none of the information sources affect the number of environmental problems, highlighted by respondent.

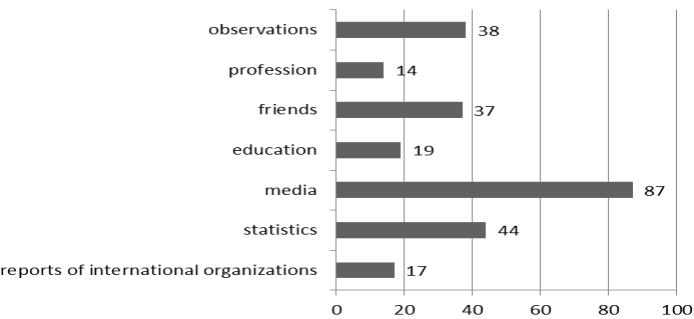


Figure 5-5. The responses on the questions about the sources of ecology information

80% of respondents believe that the regional/federal authorities do not provide enough information about the ecology problems. While 47.8% of all respondents rated the degree of their agreement with the statement “*Authorities provide enough information about the environmental issues*” in 1 point (minimum). This result can be interpreted as a distrust of the population to the information policy of the authorities (Figure 5-6).

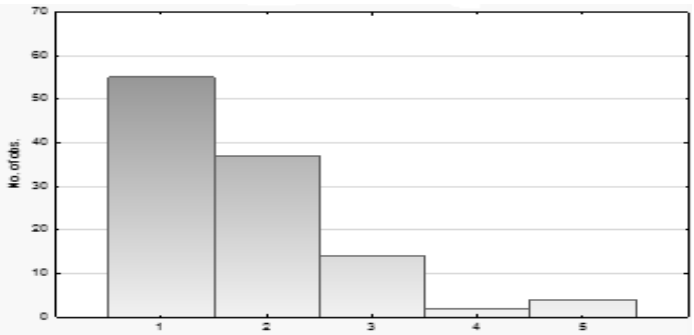


Figure 5-6. Degree of agreement with the statement “Authorities provide enough information about the environmental issues”

However, despite the low level of confidence in the information disseminated by the authorities (mostly by media), respondents do not use alternative sources. This can be interpreted as evidence of weak environmental concerns.

5.3.2. Energy saving practices

On the question of what methods of saving energy respondents put into practice, the overwhelming number of respondents (81.2%) reported the use of such simple rules as turning off lights, not leaving working appliances without need,

etc. It can be treated as pro-environmental behaviour, but at the same time it can be an evidence of poverty. To test this hypothesis, we divide the entire set of respondents into two groups – those who practice energy saving (at least one way) and those who do not. As a dependent variable we choose the number of tagged environmental issues by the respondent. Since the size of the number of respondents in the second group is small (only 7 people) the Mann-Whitney test is used. The results with significance $p=0.07$ had proved that there is a difference between these two groups of respondents. Thus, the habit of Russians to save energy can be considered as evidence of a sufficiently high level of environmental awareness.

66% of respondents also noted the use of energy-efficient home appliances and lighting appliances, 23.2% – energy-efficient construction materials (Figure 5-7).

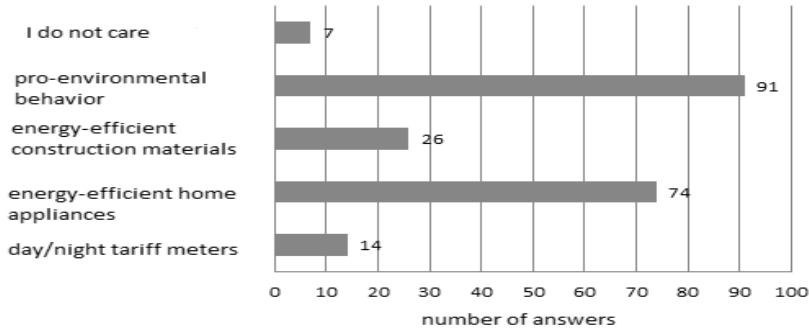


Figure 5-7. Energy-saving practices

Cross tabulation shows that the frequency of use of energy-saving construction materials depends on the type of accommodation and the gender of the respondent, the frequency of use of energy-efficient lighting devices and appliances on the type of accommodation and residence, and the frequency of use of day/night tariff meters on the type of accommodation and age (Table 5-1).

Table 5-1. Main statistics of cross tabulation

Variables	χ^2	P-level	df	Goodman-Kruskal Gamma	Kendall's coefficient
“Type of accommodation” and “the use of energy-efficient construction materials”	6.554330	p=0.03774	df=2	0.4785478	b=0.2209766 c=0.1849490
“Gender” and “the use of energy-efficient construction materials”	5.327025	p=0.02100	df=1	0.4789916	b=0.2180888 c=0.1817602
“Type of accommodation” and “the use of energy-efficient home appliances”	4.849897	p=0.08848	df=2	-0.356259	b=-0.175985 c=-0.165179
“Residence” and “the use of energy-efficient home appliances”	9.874204	p=0.01967	df=3	-0.428911	b=-0.231718 c=-0.229911
“Type of accommodation” and “the use of day/night tariff meter”	5.446301	p=0.06567	df=2	-0.661442	b=-0.205253 c=-0.134566
“Age” and “the use of day/night tariff meter”	15.07033	p=0.01007	df=5	0.4173369	b=0.1878627 c=0.1489158

Respondents who live in individual houses are more likely to use energy-efficient construction materials than others. Also men more frequently use energy-efficient construction materials than women. Respondents, who live in an apartment (or condo) are more likely to use energy-efficient home appliances or meters with double tariff. People in the age groups from 30 to 50 are more likely to use day/night tariff meters than youth or seniors.

The expectations of respondents about widespread energy-saving technologies are quite high: 26% of respondents rated them with 4 points, and 38.3% with 5 points. Overall, 64.3% of respondents expect improvement of the environment from the introduction of energy saving technologies. Only 9.6% of respondents do not expect any improvement of the environment with the introduction of energy saving technologies (Figure 5-8a).

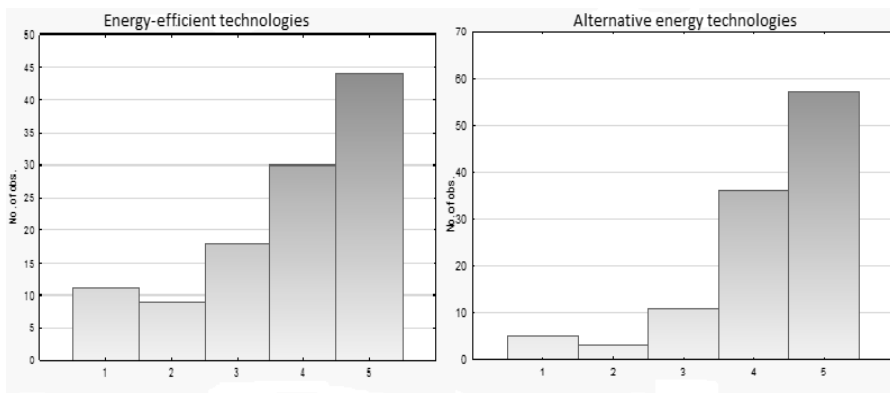


Figure 5-8. Degree of agreement with the statements: a) “Introduction of energy-efficient technologies can improve environment”; b) “Introduction of alternative energy technologies can improve environment”

The expectations of widespread alternative energy technologies are even more pronounced: 49.6% of respondents rated it at 5 points, and 31.3% – at 4 points. Total 80.9% of respondents believe that alternative energy will help environment. Only 4.35% of respondents do not expect any improvement of the environment from the introduction of alternative energy technologies (Figure 8b). Expectations of respondents regarding the extension of PEBs are slightly higher than expectations of energy-efficient technologies, but lower than expectations of introduction of alternative energy. 73.9% of respondents believe that PEBs can help environment: 25.2% of respondents say they agree with this (4 points) and 48.7% say they strongly agree (5 points).

The number of environmental problems reported by respondents has a weak positive correlation ($R=0.2$) with the expectations from the introduction of energy saving technologies. The more problems the respondent marked, the stronger his or her agreement with the statement that the widespread introduction of energy-saving technologies can improve the environment. A similar correlation ($R=0.22$) is observed between respondents' expectations of the introduction of energy-saving technologies and the number of information sources about ecology problems. The greater the number of sources of information the respondent uses, the higher his or her expectations.

Then we have checked if the sources of information or socio-demographical characteristics affect the degree of agreement of the respondent with the statements S1-S10. The results of Mann–Whitney tests on the statements about expectation of improvement of environmental situation are presented in Table 5-2.

Table 5-2. The results of Mann-Whitney tests

Grouping variable	Dependent variable	U	Z	P-level
Media	Expectations from PEBs	709.500	-2.63778	0.008345
Education	Expectations from introduction of energy-efficient technologies	632.000	-2.03465	0.041887
Residence	Expectations from introduction of energy-efficient technologies (group 1 and 4)	734.000	2.79012	0.00502
	Expectations from introduction of alternative energy (group 1 and 4)	620.500	2.02104	0.04205
	Expectations from introduction of alternative energy (group 4 and 5)	655.000	-2.05113	0.04144

Respondents, who use the media as a source of information about an environmental situation, tend to evaluate their expectations from the widespread introduction of PEBs higher (Figure 5-9a). Most likely, this is due to context of information messages in the media, which now particularly emphasized the energy savings as the most important PEB. Respondents receiving information about environmental situations during the process of education (training) tend to evaluate their expectations from the widespread introduction of energy saving technologies higher (Figure 5-9b).

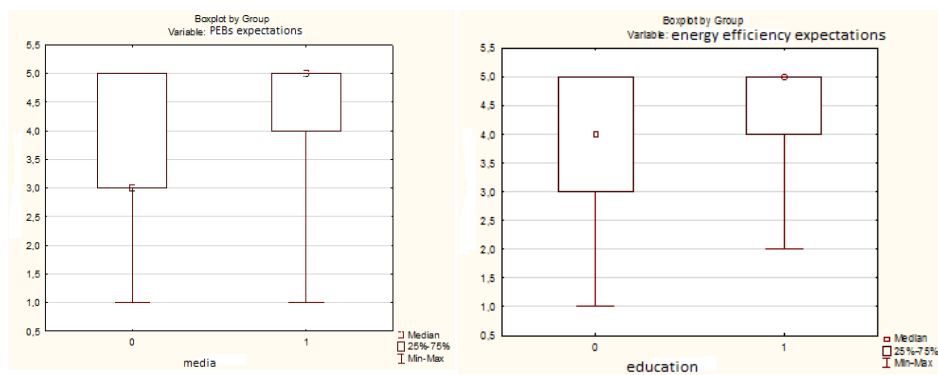


Figure 5-9. The difference in the answers in groups of responders by sources of information a) media; b) education

Respondents living in big cities (from 300,000) have higher expectations of introduction of energy saving technologies than residents of small towns (up to 100,000), but variation in opinions is higher. Similar difference between these two groups of respondents is observed in expectations from introduction of alternative energy technologies (Figure 5-10).

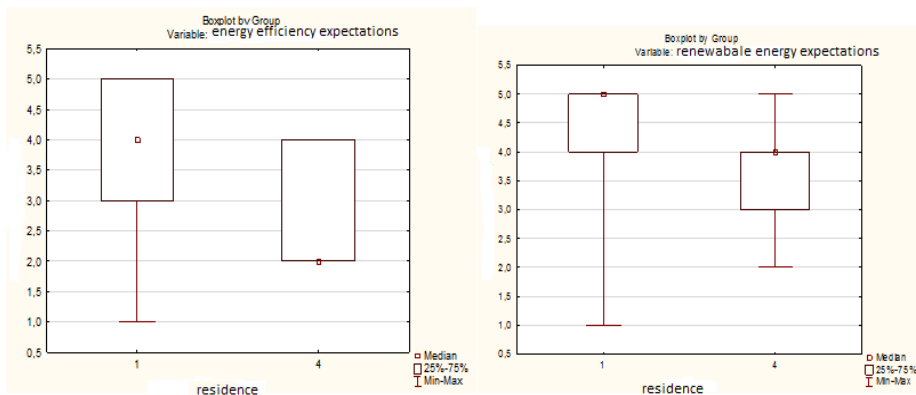


Figure 5-10. The difference in the answers in groups of responders by place of residence

People in rural areas have much higher expectations from the introduction of alternative energy technologies, rather than residents of small towns. Statistically significant differences in the respondents' answers, divided into groups by variables 'age', 'type of accommodation', 'gender' are not found.

5.4. Conclusion

The research had shown that the level of awareness about basic environmental, climate change and energy efficiency questions among Russian is quite high. Comparing with the results which were obtained in (BS, 2011-2012), we can see that respondents in Russia and Poland point out 2 out of 3 main ecology problems the same (air and water pollutions) and Russians have even higher level of concern about it. The main sources of information about environmental problems in Russia as well as in Poland are media (TV, Internet, press). The main energy-saving methods are energy-saving PEBs, energy-efficient home appliances and energy-efficient construction materials. But this similarity in basic topics should be investigated more deeply through various cross-national studies, because the information, economic and cultural context of demonstrated PEBs in the field of energy-saving can be different.

The interesting result of research is that 80% of respondents in Russia believe that the regional/federal authorities do not provide enough information about the ecology problems.

However, despite the low level of confidence in the information disseminated by the authorities (mostly by media), respondents do not care to find and use some alternative sources. This can be interpreted as lack of knowledge in the field of modern world information resources, language barriers or an evidence of weak environmental concerns.

Main factors that cause a difference in practice rate of energy-saving PEBs are the place of residence and the type of accommodation. Respondents who live

in individual houses are more likely to use energy-efficient construction materials, while respondents who live in apartment (or condo) are more likely to use energy-efficient home appliances or economy tariffs. Respondents living in the big cities (more than 300,000) have higher expectations of introduction of energy saving technologies and alternative energy technologies than residents of small towns.

Respondents, who use the media as a main source of information about the environmental situation, tend to evaluate their expectations from the widespread introduction of PEBs higher.

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6. COMMUNE SELF-GOVERNMENTS TOWARDS NATURE PROTECTION – SELECTED ASPECTS

ABSTRACT

The purpose of the present article is to discuss the essential issues associated with the activity of the lowest level of local self-governments in context of their real or potential impact on the condition of local nature resources subjected to area or object oriented protection. The basic legal regulations have been invoked, the validity of which creates the opportunity for the communes authorities to take the activities contributing to the protection of natural assets and even determines, to some extent, their obligations in this scope. It has been emphasized that the officials demonstrate weak engagement in the issues associated with the establishment of the new protection forms also as a result of the lack of comprehensive studies on existing nature potential. The issue associated with the use of protected natural values for the communes development as well as the issue associated with financing of various initiatives financed by the communes in order to support conservators tasks have been also tackled herein. Furthermore the study contains the deliberations on the importance of administrative decisions from the point of view of local ecosystems protection, particularly emphasizing the need to continue the research in the scope of quality and in the scope of methods applied in the decision making processes carried out to allow the implementation of large projects usually disturbing the natural environment.

KEY WORDS:

nature, self-government, protection, development

6.1. Introduction

The bodies of lowest self-government level have been provided by the legislator with determined competencies. Their use affects the quality of local nature potential in a direct and indirect manner. This potential may be consolidated and protected simultaneously but also endangered as a result of certain omissions or wrong decisions dictated by the ignorance of officials as well as by their reluctant attitude towards the environment protection issue, particularly in its area oriented form. Therefore the following questions are extremely important: what is the perception of nature resources by the local authorities, do they initiate any activity in order to protect them and are they properly prepared

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to reconcile the adherence to applicable regulations in this scope with frequently competitive development activities. The Author of the present article intends to attempt to answer these questions at least partially through the conclusions expressed on the basis of empirical studies.

6.2. Literature

Many scientific studies on widely understood activity of local self-governments have been published to the present date while relatively less attention has been paid to the role of these self-governments in the scope of nature protection and their impact on nature resources. However this situation is gradually improving mainly as a result of stronger interest in the idea of sustainable development in recent years and the awareness that this idea is strictly associated with the local development concepts. Additionally, the implementation of Nature 2000 programme seems to give the rise increased interest of scientists in the issues associated with nature resources management due to its specific features and first of all due to its impact range. As for the situation existing in Poland, various authors emphasized mainly the problems associated with the programme implementation. S. Kozłowski et al. who rendered greatest service to research in the scope of eco-development in Polish conditions was the precursor for this discipline. S. Kozłowski in his article published with K. Wojciechowski in the year 1996 mentioned that local self-governments may be unable to properly management in their communes without negative impact on natural resources (Kozłowski & Wojciechowski, 2006). A. Bołtromiuk devoted a lot of content in his studies the issues associated with European Ecological Network functioning in Poland in the local conditions context indicating among others to most important barriers impeding the performance of protection tasks their reasons (Bołtromiuk, 2012). The problem associated with insufficient consideration of environmental requirements by the commune self-governments in course of assessment of investment proposals has been mentioned by M. Kłodziński as well as by the group of authors acting in '*Stowarzyszenie Pracownia na rzecz Wszystkich Istot*' [Workshop for All Beings] (A. Kula, R. T. Kurek, K. Okrański). In the first case the authors described the abnormalities found by the Supreme Chamber of Control (NIK) in 2007 monitoring the activities of self-governments bodies in course of setting out the Nature areas as well as the protest of local factors against precautionary principle to be adhered when issuing the investment decisions in poorly identified nature areas (Kłodziński, 2012). However the published results obtained by from the Workshop research related to the methods of execution of the assessment of investments impact on environment and the conclusions have been expressed on the basis of analysis of activities taken by significant number of self-governments community from south and east Poland (Kwalifikowanie, 2008). The perception of protected areas by the commune executive bodies is described by B. Mickiewicz and W. Got-

kiewicz in their studies, particularly concentrating at the assessment of impact on economic development and associated processes (Mickiewicz & Gotkiewicz, 2010). Similar research has been carried out but in a larger scale (231 commune heads and mayors from the whole territory of Poland participated in the poll survey) in the year 2011 by Europejski Fundusz Rozwoju Wsi Polskiej [European Fund for the Development of Polish Rural Areas] and the results of the project have been published in the form of report (CBR, 2011).

Some of aforesaid studies will be used in further part of this text containing also the presentation of the results obtained by the Author from his own research carried out among the commune heads acting in the territory of Lubelskie Voivodship.

6.3. Organizational activities

The local authorities on commune levels are responsible for the decisions indirectly affecting the quality of natural resources but, acting as the statutory empowered body, may also initiate the actions directly associated with nature protection. Obviously the group of such activities encompasses the activities associated with the creation of new protection forms. The Act of 2004 also envisages the possibility to create the following protected areas and objects: nature monuments, documentation sites, ecological sites; nature and landscape complexes. However in reality, the competences in this scope are still used to only a slight extent. Of course, it is impossible to explain this situation indicating the satisfactory condition of natural environment or sufficient protection scale in individual areas. In contrary, from the research of Author encompassing the whole territory of Lubelskie Voivodship it appears that the protection scale in many communes is insufficient and specific resistance of self-governments is based upon their general reluctance to undertakings assessed as the projects which rather will not bring any quantifiable material output but may negatively affect the investment activity. Among 127 communes in the territory of Lubelskie Voivodship (60% of total number of communes in our region) subjected to the poll survey in the year 2008 only one in seven commune (19 entities) was able to clearly determine the objects which have been created on the basis of the decision made by local authorities. The ecological sites (11) constituted the majority of newly created forms in the group and nature monuments (9) have been classified on the second position. Furthermore it has been found that there are the plans to create the new forms of nature protection in 38 communes but in only 15 cases through bottom-up approach (Witkowski, 2008).

A necessary condition for the local officials to be able to assume at least a part of responsibility for the extension of protection scale in the area of their management, except of their proper professional background is a reliable identification of the commune potential in the scope of natural assets. This objective is pursued by so called environmental inventory furnishing also information

for various planning studies. Admittedly, such operations are carried out by more and more communes in Poland but the conclusions drawn in a broader perspective are significantly less optimistic. Irrespective of the fact that corresponding review has been still not performed at all by certain percentage of commune offices, it is fair to say that a large number of self – government entities is satisfied with one – time preparation of the study, often prepared many times ago, ignoring the increasing anthropopressure on the environment due to at least of many projects implemented in recent years and financed from EU funds. Unfortunately this situation may have negative consequences for the quality of spatial development plans in communes which will be discussed here.

6.4. Financial commitments in the scope of pro-protection undertakings

The self-government authorities on commune level planning their budgetary expenditures in next years may spend certain amounts for the activities contributing to nature protection. Particular reference is made here to aforementioned creation as well as functioning of already existing areas and objects with legally protected status but also to the tasks consisting in the protection and restitution of endangered plant and animals species, execution of various analyses and experts' studies as well as widely understood environmental education. Additionally the entities managing the smallest administration units may use external financing sources on national (mainly the funds in the scope of environment protection and water management) and international level. The scope of international funds encompasses particularly the funds available in the framework of operational programmes, all the more so because the environmental needs have been clearly considered for the first time in the financing period 2007-2013. Already mentioned analysis carried out in commune offices in Lubelskie Voivodship indicated that although the ecological target funds have aroused strong interest there (among 96 communes declaring the expenditures for goals associated with biodiversity protection, 69 of them obtained the funds from the Voivodship Fund for Environmental Protection and Water Management), the use of EU funds was much more problematic because less than one in four self – government applied successfully for them. Furthermore our research demonstrated that the activities informing the local society about the need of and methods preventing the natural resources depletion as well as trees and hedges planting were the most popular activities supported by communes (Witkowski, 2008). As far as environmental education is concerned, it should be mentioned that the vast bulk of initiatives is addressed to school pupils and only rarely to the persons conducting business. For example Łęczna Municipality in Lubelskie Voivodship spent more than 30.000 PL for ecology promotion initiatives in the year 2007 but this amount has been wholly spent for campaigns organization in local educational entities (Witkowski, 2010). Little interest of self-

government in applying for EU funds for purposes directly associated with nature protection is also confirmed by summary reports on EU projects implementation. For instance it has been assumed in the operational programme entitled 'Infrastructure and Environment' that among others about 90 million EURO will be used for the financing of activities in the framework of priority 'Environment protection and promotion of ecological habits'. As at 2nd October 2011 from among 110 projects already implemented or in progress, it was only one case when the local authorities had the status of an independent beneficiary i.e. Związek Międzygminny Zatoki Puckiej [Association of Communes of Pucka Bay] (KSI, 2013). However bearing in mind the importance of the projects, such situation can be explained by limited possibilities to provide relatively high own contribution to be made by the communes.

6.5. Development planning and protected areas

The planning activity carried out by the self-government consists in the preparation of several documents; some of them are mandatory and other optional. All of them shall, in one or another way, consider the presence of the areas of high natural value existing in specified territory, particularly the protected part of them which is formally excluded from normal exploitation in part or in whole. Another issue is the planning of proper use of local natural values for the commune benefit. Independent research confirm that more and more commune self-governments are aware of great advantage of species rich ecosystems and are willing to use them as the basis for further development. For example, the author found that the use of environmental and natural values for tourism development has been included by three quarters of surveyed group of self-government entities from Lubelskie Region as priority and some local authorities were more advanced preparing the sustainable development strategies.

However there is a substantial danger consisting in inability of the civil servants acting as communes managers to transform existing natural wealth into social and economic benefit. It is not enough to consider the values in development strategies to warrant that they will be really considered at determination of most important objectives and priorities. This assumption seems to be substantiated e.g. by the research carried out in the group of more than ten communes from north east part of Poland. W. Gotkiewicz i B. Mickiewicz pay attention to the fact that the authorities of all those communes are aware of the role of natural environment but even in case when this awareness has been considered in development plans (in case of two from among 15 communes) no precise indication is given of the specific actions to be taken therefore (Gotkiewicz & Mickiewicz, 2009). Furthermore the same Authors in another study state that the presence of areas protected under Nature 2000 programme is perceived by significant part of commune heads as a brake to economic development

and additionally some of them are not interested in information campaign carried out among local inhabitants (Mickiewicz & Gotkiewicz, 2010).

Certainly, the attitude of authorities to existing forms of protection significantly contributes to the willingness to classify the protected areas as the strengths which could be a positive factor in local development. But we have become more and more familiar with this phenomenon, mainly as a result of entry into force several regulations governing the areas functioning in the framework of Nature 2000 Ecological Network. In the report entitled 'Nature 2000 – public welfare, private problem' the authors acting in framework of the project financed from the European Fund for the Development of Polish Rural Areas, presented among others the data characterizing the reaction of self-governments to the plans to set out Nature areas in their territories. From said data it appears that large part of the commune heads negatively assessed new protection program from the point of view of economic growth opportunities for their communes. Furthermore many commune offices demonstrated passive behaviour towards materials sent to them for consultation (CBR, 2011). However slightly different conclusions on attitudes of officials towards Nature 2000 areas have been drawn by E. Tarchalska who, on the basis of published results of consultations with self – government officials from nine communes situated within the boundaries of special protection area for Nature 2000 habitats – 'Ostoja Nadbużańska' finds that majority of self-governments civil servants is favourably disposed to the newly created nature protection form and that, in their opinion, there are rather no barriers in spatial planning created by this form. Moreover E. Tarchalska clearly emphasizes that significant increase of acceptance expressed by local officials took place in course of the first years of network functioning in this area (Tarchalska, 2008).

6.6. Administrative decisions

The protection of valuable natural objects can be endangered as a result of wrong decisions made by the self – government bodies in the commune, because certain priorities in the social and economic scope can be preferred over the local ecosystems needs. This is a short – term and most often harmful behaviour for example the granting of permits for the elimination of trees and hedges. Pursuant to Article 83 included in the act on nature protection the authorities of communes are permitted to grant the permits for the removal of trees or hedges if they are replanted in indicated area or substituted by other trees or hedges in amount not lower than the amount of the objects to be removed (art. 83 section 3). However from the research of the Author it appears that in Lubelskie Region the year 2008 such solution was established as standard only in about one in four communes. The fact that there are no so called commune parks functioning in majority of communes as one of the forms of greenery maintenance might also indicate that sometimes regardless of verbal declara-

tions, no particular importance is attached to the greenery protection in communes offices (Witkowski, 2008).

The necessity to respect the nature protection requirements when issuing the decisions on environmental constraints for project implementation is another extremely important issue which has been not extensively surveyed yet. From Polish laws it appears that the communes authorities will have the decisive voice in whether or to give the permit for the implementation of many types of undertakings, including those with serious impact on environment. The works carried out among others by the Stowarzyszenie Pracownia na rzecz Wszystkich Istot [*eng. Workshop for All Beings Association*] are in preliminary phase, all the more so because that since the time of publication of the study (2008), the effects of the new regulations entered by the act of 3rd October 2008 have been not considered therein. From among many conclusions expressed in mentioned work, we can mention the conclusion saying that the principles and criteria followed by the commune bodies issuing their opinions on the obligation to prepare the report on project impact on environment which may be the crucial element prejudging the impact assessment, are general, non-verifiable and lack any substantial basis (Kwalifikowanie..., 2008).

6.7. Conclusion

The activity of commune self-governments is and will be of paramount importance in future in respect of nature resources protection. Obviously the present study describes only selected themes associated with the problem being discussed and therefore it is impossible to exhaust all the possibilities in this scope at least due to the scale of the topic. The following fundamental issues were raised: the activity of the local authorities representatives in the scope conservator tasks *sensu stricto*, financing of protection tasks and other undertakings contributing to the maintenance of natural potential or its consolidation, the role of the natural values in local development perceived by the officials and reflected in corresponding documents or the impact of some administrative decisions issued by commune self-governments on the environment condition. As emphasized herein, the research carried out in order to enable better identification of potential influence of local authorities on the local natural resources is its initial phase and should be continued in the interest of rural community which should benefit from the presence of valuable and protected natural resources as well as in the interest of the latter the functioning of which can be endangered in the face of inevitable changes in Polish rural areas.

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7. SOME PROBLEMS WITH MEASURING PRODUCTIVITY AND MANAGEMENT IN HIGHER EDUCATION

ABSTRACT

We short describe the importance of measuring productivity in higher education and its characteristic as complex problem. Basic problem is: why productivity measuring is so difficult. On basis literature review we make own judgment about some productivity definitions and indicators.

Next we present own methodology for solving above problem. At first we presented quantitative characteristics concept of mathematization, as second step mathematical description of high school productivity. Next there is presented essence of so called fuzzy integral non-optimal system as important contribution to solve general problem for our work. The university is a complex soft-system, in which the key role played by experience of students. We introduce the idea of sub-optimal systems and justify their general utility in modelling the productivity of higher education.

KEY WORDS:

Higher Education, measuring productivity and management

7.1. Introduction

“In the global knowledge economy, the key to maintaining and broader economic growth talents became education and characteristics of individual people – their human capital. School systems can do much to help people realize their potential, but when it fails; it can lead to long-term social and economic problems” (OECD, 2007, p. 21).

It is now believed that the key factors that affect economic growth are the intangible resources, or education, knowledge and learning. Human capital and research are crucial in building a knowledge-based economy.

Currently, much is said about the reform of Polish Higher Education in the context of the quality of research in Higher Education and research competitiveness of our education internationally. Based on the bibliometric data collected in 2008 on 100 Polish teachers, only 23 have published in international journals (Institute for Scientific Information in Philadelphia). This indicates that a statis-

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tically Polish Academic Teacher publishes outside the country once on four years. Analyzing the results in Western countries, for example in Germany, Austria the indicators are twice higher than in Poland. On the Technical Universities the results fall slightly better than in the case of Universities and the result is largely due to the fact that science teachers focus on publications in scientific journals than teachers of the humanities.

7.2. Model development

Productivity research in the context of biometric is the main indicator based on statistics related to the amount and frequency of insertion of publications in international journals indexed in the Web of Knowledge and published in the Institute for Scientific Information in Philadelphia.

7.2.1. Measures of scientific production

Today there are many methods of test 'scientific production', the most commonly used can include: expert method (peer review), evaluation of the scientific orientation and bibliometric measures.

Bibliometrics (Bibliometrics, Scientometrics) uses quantitative indicators of scientific productivity. There are used mathematical methods and statistical evaluations of the scientific literature which allow assess the 'scientific production', assuming that the basis of scientific activity is the production of knowledge, which has its reflection in the scientific literature. The main point of bibliometric data is a collection of databases known as the Science Citation Index (SCI), Social Science Citation Index (SSCI), and Arts & Humanities Citation Index. (Osiński, 2012)

(A & HCI), developed by the Institute for Scientific Information (Institute for Scientific Information – ISI, Philadelphia, PA, USA). In summary bibliometric analysis involves the use of a variety of data related to the publication of scientific and cited in these publications, citations to evaluate the results of scientific work and to follow the development of science.

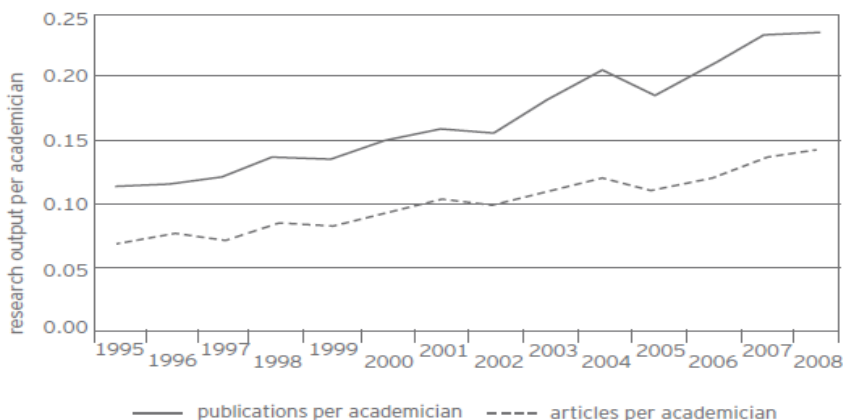


Figure 7-1. Bibliometric indicators of research productivity in Poland between 1995-2008 (all higher education institutions)

Source: Wolszczak-Derlacz, Parteka, 2010

Productivity research at Universities can be assessed in many different ways. Very often the method of bibliometric analysis is based on the number of publications assigned to people working on a particular University (Figure 7-1). Adding up all the scientific papers of the University, we can easily compare the results of the research unit with the results of other Universities, including international (Table 7-1). Regardless of bibliometric indicators used alternative measures. For example, if we want to calculate the level of University research orientation, which can be measured by considering the number of doctoral students in relation to the total number of students. It is worth noting that graduate students play an important role in research activities, while at the same time ‘manufacturer’ knowledge, or doing your own research, writing scientific articles and as a result of the scientific process are awarded the Doctor degree. Another indicator of the effectiveness of the research, which is worth mentioning, is the knowledge about the number of acquired patents and licenses. A significant problem in this case is that the information patents are developed by the flu Universities and Companies. Often, however, as a result of such cooperation to patents formally becomes the property of the Companies and not the University. Thus, data on patent databases to some extent reflect the actual effectiveness research.

Table 7-1. Aggregated bibliometric indicators – Poland versus selected European countries and the USA (Wolszczak-Derlacz, Parteka, 2010)

	Total number of documents included in SCImago JCR [per year, average 1996-2008] (1)	Number of documents included in SCImago JCR per R&D personnel in higher education sector [per year, average 1996-2008] (2)	Cities per document [average 1996-2008] (3)	H-index* [1996-2008] (4)	International cooperation (ratio of documents which affiliation includes more than one country address) [average 1996-2008] (5)
Poland	16083	0,37	6,6	208	33,1
Italy	46795	0,76	12,3	432	34,3
United Kingdom	95574	0,59	14,8	619	35,3
Finland	9553	0,60	15,1	273	39,9
Austria	10023	0,84	13,6	281	46,0
Switzerland	19025	1,16	18,6	422	52,6
Germany	87122	0,86	13,5	542	39,6
United States	331349	-.**	17,3	1023	25,2

Note: *country's number of articles that received at least h citation (see Note 35). ** data on the number of researchers unavailable.

In fact, the efficiency of scientific institutions both at home and outside was previously measured using the following methods:

- peer review, which is based on the analysis of quantitative indicators of academic staff, graduate students with regard to publications, patents and exhibitions with the assessment of experts,
- evaluation of University research orientation is calculated the ratio of the total number of doctoral students,
- the balance of revenues between Universities of scientific activities, including grants, contracts from private funds,
- study of bibliometric indicators based on the number of publications.

One of disadvantage of the above methods is the research process of doctoral students who are perceived not only as producers of knowledge but and as a result of the research process. In the case of research data concerning funding for the development of research there is the problem of obtaining data from Universities in several countries due to the use of different funding schemes. Based on the above specified limits one of the preferred methods for testing

the productivity of researchers is a bibliometric method, which allows analyzing the performance of both Universities at home and abroad. This method is quite simple to implement and relatively inexpensive, moreover, allows rapid updating of data and to expand the scope to other universities.

7.3. Mathematical approaches of science programming in Russia – short characteristics

“The application of mathematical methods within programming makes it possible to form both the current and prospective quantification of key factor transformation, ensuring effective functioning of the scientific program under various conditions. This evaluation makes it possible to predict possible changes in the development of the research and innovation activity modifying the quantitative value of various key factors” (Bilchak, Nosachevskaya, 2012, p. 163-164).

In this connection, the key factors ensuring effective functioning and relevant results of research and innovation sectors functioning include the following:

- scientific personnel (personnel engaged in research and development; hiring and dismissal of scientific personnel),
- financial support of research and development,
- material and technical facility of science (basic means of research and development; machinery and equipment),
- efficiency of research and development at different stages of their introduction into the economy (publishing of local authors in scientific magazines, application of patents and issuance of patents in Russia; creation and use of advanced production technology; volume of innovative products, works and services; expenses for technological innovation).

For evaluation of this functional dependence, various statistical indicators characterizing the process and results of the scientific activity were considered.

For the collection of these indicators, correlation and regression analysis methods were applied. This made it possible to analyze the set of indicators required for the construction of a statistically and mathematically significant model; personnel engaged in research and development; internal expenses for research and development; cost of machinery and equipment for research and development; number of mechanical patents issued in Russia (Bilchak, Nosachevskaya, 2012, p. 163-164).

Evaluation of the parameters significantly influencing the number of issued mechanical patents is implemented in two stages. At the first stage, the indicator of the issued mechanical patents per researcher was evaluated with the following ratio:

$$patents_{lab}(t) = F(equip_{lab}(t), costs_{lab}(t), \theta)$$

where:

- $patents_{lab}(t)$ – issued mechanical patents per 1 researcher;
- $equip_{lab}(t)$ – cost of machinery and equipment used for research and development per 1 researcher, at the time t ;
- $costs_{lab}(t)$ – internal expenses for research and development per 1 researcher, at the time t ;
- θ – set of parameters to be evaluated.

At the second stage, the indicator of the issued mechanical patents per researcher was evaluated with the following ratio:

$$patents(t) = patents_{lab}(t) \times labor(t)$$

where:

- $patents(t)$ – issued mechanical patents;
- $patents_{lab}(t)$ – issued mechanical patents per 1 researcher, at the time t ;
- $labour(t)$ – personnel engaged in research and development, at the time t .

The number of indicators characterizing the scientific activity was also taken into account for the model.

Characteristics of the number of personnel engaged in research and development was implemented with the following ratio:

$$labor(t + 1) = labor(t) + \overrightarrow{labor(t)} - \overleftarrow{labor(t)}$$

where:

- $labor(t)$ – personnel engaged in research and development, at the time t ;
- $\overrightarrow{labor(t)}$ – hired scientific personnel for the period t ;
- $\overleftarrow{labor(t)}$ – dismissed scientific personnel for the period t . (Bilchak, Nosachevskaya, 2012, p. 163-164)

7.4. A problem based taxonomy of simulation and management modelling methods and tools as guidance for solving some problems in higher education

At the literature we find very useful taxonomy of simulation and management modelling methods.

“A manager or an analyst will describe and classify the problem he faces and the taxonomy as an assistant, for example in the form of expert system, will select the suitable method” (Dlouhy, Jablonsky, 2010, p. 10).

For example this selection has been developed for decision making in health service research by the Research Into Global Healthcare Tools group. (Ragsdale, 2007)

Table 7-2. A taxonomy of management problems

Criterion	1. Low level	2. Medium level	3. High level
1. Decision- Making Level	Operative decision-making, the lowest-level unit	Medium level, more units, processes	Strategic decision making, indirect control
2. Type of Objective	One objective, clearly defined	More objectives, conflict- ing	Hidden objectives, conflict- ing
3. Expected Outcome	Evaluation of finite number of known alternatives	Infinite number of alternatives defined by known restrictions	Qualitatively new alternative
4. Complexity of Relations	One unit, process	More units, linear, deterministic relations	More units and levels, complex relations, unknown relations
5. Environment Variability	Static, homogeneous requirements of clients	Dynamic, but predictable	Dynamic, stochastic, heterogeneous
6. Type of Data	High quality data, available, ideally from one database (source)	Good data, missing data can be substituted by estimations	Poor quality data, not available, more data resources
7. Type of Solution Procedure	Solution calculated by an analyst on the basis of available data	Data-driven solution, but consultations and negotiations are need	Cooperation among actors is necessary, the solution is negotiated

Source: (Dlouhy, Jablonsky, 2010, p. 7)

Table 7-3. Classification of management modelling methods

Method/Criterion	1	2	3	4	5	6	7
Agent-Based Modelling	2, 3	3	2, 3	2, 3	2, 3	2, 3	1
Data Envelopment Analysis	1, 2	1, 2	1	1, 2	1	1	1
Decision Trees	1, 2, 3	1	1	1	1, 2	1, 2	1
Discrete-event Simulation	1, 2	1, 2	1, 2	1, 2, 3	2, 3	1, 2	1
Lean	1, 2	1, 2	1, 2	2, 3	2, 3	1, 2	1
Monte Carlo Simulation	1, 2, 3	1	1, 2	1, 2	1, 2	1, 2	1
Optimization Methods	1, 2	1, 2	1, 2	1, 2	1, 2	1	1
Process Reengineering	1, 2	1, 2	3	1, 2	2, 3	2	2, 3
Project Management	1, 2	1	1	1	1	2	2, 3
Scenario Analysis	3	2, 3	1, 2, 3	3	2	2, 3	2
Six Sigma	1, 2	1, 2	1, 2, 3	3	2, 3	1, 2	1, 2
Soft Systems	2, 3	2, 3	3	3	2, 3	3	3
Supply Chain Management	2	1, 2	1, 2	2	2	1	2
SWOT Analysis	2, 3	2, 3	1, 3	3	2, 3	3	2, 3
System Dynamics	3	1, 2	1, 2	2, 3	3	1, 2	1, 2
Theory of Constraints	2	1	1, 2	1, 2, 3	3	1, 2	1
Time Series Analysis	1, 2, 3	1	1	1, 2, 3	1, 2	1, 2	1

Source: (Dlouhy, Jablonsky, 2010, p. 8)

Evaluation of management modelling methods by the development seven-criterion taxonomy served as an input into cluster analysis with 21 binary variables (3 binary values for each criterion). The variable equals to one if the evaluated method is suitable for problems of a given level complexity, otherwise equals to zero. Each method has to have at least seven variables with value one, but it can have more if the method is applicable to two or even to all three levels of complexity. The results can be influenced by the type of cluster analysis, but experiments with different types of cluster analysis showed that results do not change significantly.

So far there have been discussed selected mathematical methods associated with productivity measurement operations research. The measurement of productivity of universities is more complex and requires a broader view, because the university is a complex system such as a non-optimal system, or soft system (called by Polish scientist prof. J. Kacprzyk).

7.5. New approach – Higher education as fuzzy non-optimum system

The theory of non-balanced self-organized system, starting from the study of the balanced-open system which the objective world proper possesses, reflects truly the whole internal mechanism and the common principle of the ordered and functional ordered structure in various time-space. According to the theory of ‘dissipation structure’, as long as the system is open, the non-balanced state may become the source of ordered system. So the non-optimum system is the basis of the optimum. Only when the system goes out of the non-optimum category, can it come into the stage, where we are to seek the optimization. The optimization project or system which best represents the objective function bears only relative significance, that is, they are realized under a certain and strict condition. Because of the complication of mans, social practice (many undetermined and uncertain factors, alternation and the influence by his behaviours) and the feasibility of the pursued goal in present circumstances.

So the traditional optimum methods have their problems which must be analyzed and solved with all dimensions considered. Our purpose is to develop a concept of relative optimum (RO) and thres-optimum hold (OT), with the RO including the ‘non-optimum’ (NO), ‘sub-optimum’ (SO) and the ‘optimum’ (O), following the theory of unity of the opposites. Thus the human practice processes and results are divided, according to their nature, into O, SO and NO sections. From these three directions we can best study the features and rules of system optimization. (Ping, 1986)

7.5.1. The Types and Models in the NOS (Non-optimum System)

In the previous considerations we discussed the relationship between the system no-optimum and the optimum. However, since all systems are sub-optimum in their nature, our aim is set on the problem of system's optimization and non-optimum. Analyzing the general laws behind the systems' movement, we can sum up three different nonoptimum (NO) types:

- systems formed from the changed states of the systems' old self in the process of system movement,
- systems formed because of changes in constraint factors and new constraints can no longer satisfy the operation of the systems,
- systems formed from changes in both the system's own states and their constraints, operating in new conditions and thus making it impossible to determine their laws. Then the systems move in the NO category.

Judging these NO system phenomena, we can see that (1) some have obvious NO conditions and can be identified from observation and analysis of the past operations of the system; (2) others are fuzzy NO; people can identify them ac-

cording to the intrinsic fuzziness of human experiences and reasonings in a system with fuzzy information. They are sets or 'grey NO (non-optimum)' and valuable for system operation decision-making and management; (3) potential NO: hidden in the forming stage in a system, has defects in its design but not effecting to functions within certain conditions and its information has not been sensitized.

One rule of scientific research is to develop from the qualitative analysis to the quantitative. To the NOS (non-optimum system), if we discuss at certain level of the understanding of its intension. we can analyze quantitatively.

Suppose the degree of the NO of the system to be n (NO parameter) which is the degree of satisfaction that the system's constraints are given by each factor of the system. This is a typical systematic optimization problem. According to the conventional methods for optimization, it is a process of minimizing the target function while satisfying.

So the degree of satisfaction of the constraint conditions determines the reciprocal conversions of the NO and O (optimum) of the system and differentiate the various level system optimization (Ping, 1986).

Applying the principle of multiple perspectives of the university can be viewed from different points of view. From the government point of view of the university can be seen as the optimal system (curriculum), while from the student's point of view is important to their experience (hidden curriculum). Based on this experience, we can develop a non-optimal system (Charlak, Jakubowski, 2013). This can be seen to be extremely useful NOS systems. We can also see the education in terms of historical development as a developing system. As we have said, a system that is optimum in one time and space environment may be non-optimum in another. The behaviour of a system is almost circling around the cycle from the unbalanced state to the balanced from the disordered to the ordered, overcoming 'ups and downs' and 'disruptions' to reach its 'destination point' or 'destination ring' in its reciprocal space. So the non-optimum cases under different conditions are different.

7.6. Conclusion

Each method has advantages and disadvantages; for example, expert judgment is often used by institutions awarding research grants to determine the allocation of resources between universities and the amount of funds transferred for a particular university with regard to its research capacity. One of the drawbacks, which are worth mentioning, is the high cost and virtually no possibility of examining these data internationally.

We find in the literature the problem-oriented taxonomy of management problems based on seven classification criteria (Table 7-3). We applied this taxonomy to the sample of four simulation methods and 13 management methods. The cluster analysis indentified four clusters of methods that make a relatively

good sense. We denoted these four clusters as methods of strategic analysis, traditional quantitative methods, methods of dynamic business process analysis, and process planning methods.

The study has two limits: (1) the proposed taxonomy (Table 7-2) is not the only one that is possible, (2) evaluation of methods (Table 7-3) is not so objective one would ideally wish, it depends, at least in part, on subjective views and personal experiences. This taxonomy may be very useful for solving management problems in higher education.

We short describe the idea non-optimum systems as basis for further development a new approaches for solving some problems in higher education as soft non-profit systems.

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8. GENDER MARKETING AS A NEW TREND IN CONSUMER BEHAVIOUR

ABSTRACT

Women are a very specific target group. Modern female consumers eagerly use the Internet and social media. Almost 73% of female consumers claim that social websites contain reliable and useful information and 44% advice other women in the purchasing process. As many as 91% of women never leave their homes without their mobile phones and 39% claim that surfing the Internet is the most calm part of their day. Therefore, marketing activities aimed at women should be a result of knowing the target group and planning activities in accordance with the group's needs. Enterprises should be aware of their purchasing and communication power.

KEY WORDS:

gender marketing, purchasing process, consumer behaviour

8.1. Introduction

Gender marketing can be defined as a “conscious way of marketing the brand and products aimed at either male or female consumers”. The purpose of gender marketing is to adjust the product, communication tools and channels by eliminating stereotypical needs of both genders on the basis of their real needs. “Marketing aimed at women consists in speaking about existing products and services in a way so that the announcement is adjusted to the specificity of the target group” (Jerzakowska, 2013c, p. 30).

8.2. Goals and methods

The aim of this article is to present the essence, principles and effectiveness of the gender marketing. An attempt to prove the effectiveness of activities using the principles of gender marketing, aimed particularly at female consumers, has been made. The research methods used to achieved the goal were: desk research, observational research (participant and non-participant observation), questionnaire pilot research among the group of female respondents

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in the framework of statutory research conducted in 2013. The author intends to continue the research in subsequent research papers.

8.3. Research results and discussion

There are multiple factors that affect the creation and development of the gender marketing. One of them concerns the increase in female affluence and their participation in the purchasing process (Sieńkowska, 2013, p. 38). According to K. Pawlikowska, nowadays women make 80% of all purchasing decisions. Usually they take care of home budget and control outlays on various products and services (<http://pawlikowska.blog.onet.pl...>):

- 94% of outlays on home furnishings,
- 92% of outlays on holidays,
- 91% of outlays on purchasing a house or apartment,
- 60% of outlays on purchasing a car,
- 51% of outlays on electronic devices.

The Pentor Centre's report "*2012 Poles' purchasing behaviour*" indicates that it is women who are responsible for making the majority of family decisions. It regards not only products typically associated with women, but also stereotypically "*treated as men's domain concerning finances, investments, insurances and developers' services*" (Pawlikowska, 2013, p. 41).

Another factor is the increase in female education level. Women are more and more self-confident, demanding (when making a decision, they take into consideration ten times more criteria than men) and the use goods that used to be associated exclusively with men, such as a car or radio and television devices. Other factor is the increase in knowledge about functioning of male and female brains in the field of sub consciousness. Women perceive social roles differently and they need other products in order to execute them. Last but not least there is a change in women's position in society. Nowadays, the role of a women is not limited only to being a mother and wife. Modern woman is well-educated, employed and, most importantly, she fulfils her needs.

Practice shows that gender marketing often comes down to assigning gender to products. For example – the twin Coca-Cola products: Coca-Cola Light and Coca-Cola Zero have the same ingredients. However, they relate to different values, aesthetics and sensitivity in the world of women and men. Other instances of usage of gender marketing can be exemplified by Sony Vaio notebooks and Phillips products marketed under the banner of "*Sense and simplicity*" (Sieńkowska, 2013, p. 38). "*Understanding the needs of consumers is the basis for marketing campaigns and successes of such products as Coca-Cola Zero for men and Redd's fruit beer and Suzuki Swift for women*" (Lenarczyk, 2012, p. 44).

It is important not to contrast activities aimed at women with communication aimed at men – they are not supposed to squeeze themselves out, they should support each other. The Boston Consulting Group experts created a definition of the so called “*Four R which [...] are the basis for modern business open to women*”:

- recognise – “*understanding of values, creating and offering consumers optimal products/services*”;
- research – analysis of functioning of the products in the whole cycle – from purchasing to the final moment of consumption and habits, behaviours and attitudes of a female consumer;
- respond – determining pros and cons of a products and eliminating weaknesses;
- refine – constant refining of a product in order to strengthen ties with a female consumer.

It is worth remembering that there is not a single model of a female consumer just as there is not a single model of a male consumer. It is equally important to “*understand the general specificity of communicating with women*” and “*precisely define the specific group for which our communication is aimed at*” (Pawlikowska, 2013, p. 41).

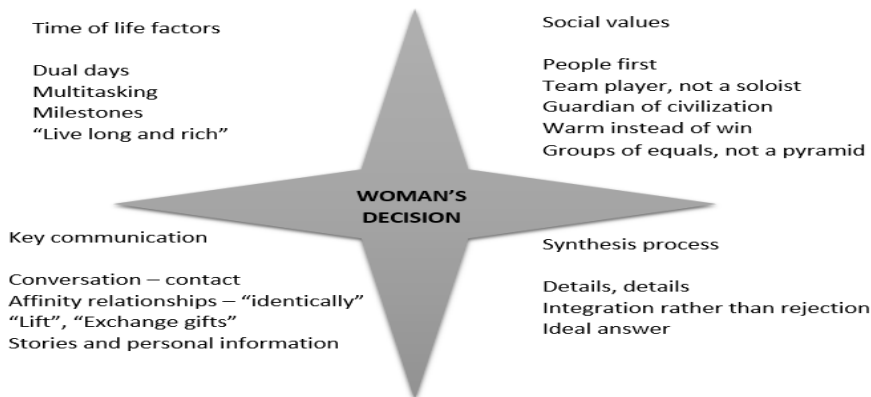


Figure 8-1. GenderTrends Star – gender culture star

Source: Barletta (2008), p. 108.

The GenderTrends Star (Figure 8-1) is a marketing model of a four-pointed star presenting areas that differ female gender culture and male gender culture. The most important factors have been described below.

People are considered to be the most important and interesting aspect of women's lives. They have to have a sense of closeness and relationship with another human being. Women are oriented to teamwork and men usually want

to be leaders and they struggle to gain higher position in a group. *“As a result, women, much more often than men, are pursuing consensus, common values and areas of agreements”*. They are much more flexible and agreeable to compromises. They try to maintain good relationships and atmosphere in a team. Women also more often take advantage of open communication (Kozielski, 2013, p. 56). They prefer being ‘warm’ to winning. *“For a woman, ‘we’ is a social unit. The community spirit [...] is important for numerous female consumers group, regardless of socio-cultural background or latitude”* (Pawlikowska, 2013, p. 41.).

“Men’s behaviour is linear and they tend to perform their duties consecutively”. They perceive many issues as a pyramid, in a hierarchical manner. This pyramid includes respect, being right, individuality, freedom and self-reliance. Men want to stand out above the crowd and be a role-model for others. Women on the other hand value relations and community spirit. They have a sense of solidarity with a group and value resemblance. Therefore when addressing men, it is necessary to speak concretely. Emphasising the status and prestige of possession and transferring technical information. When addressing women, it is necessary to create a sense of solidarity and awake liking. However, it is important not to use empty slogans, as female purchaser dissatisfied with acquired product *“will tell twenty other people about her opinion on a given brand”* (Jerzakowska, 2013b, p. 24). *“Women are much more willing to perform philanthropic activities”*, they want to change the world for better, participate in social programmes, take care of children etc. (Barletta 2008, p. 75). Women like to share opinions, therefore they search for information not among the commercials, but among real people. The majority of women every day has a dual character – they work at home and at their workplace. More and more women become professionally active and are simultaneously homemakers who look after children. Men are focused on one thing, while women do many things at once. They are oriented to multitasking and notice that if they have multiple things to do they usually do more than when they would when taking only one activity. Woman’s life consists of ‘milestones’ – marriage, move, child birth etc. Each of this events generates many new needs which must be fulfilled here and now. Moreover, women’s life expectancy is getting longer – their old age period does not get longer, but their maturity age does. Women aged 50-55 are nowadays much more active than their mothers or grandmothers. They are professionally and physically active, self-confident, aware of their needs and have even more impact on decisions among people they have contact with (Barletta 2008, p. 82-89). Multiple responsibilities of women *“result in the fact, that they willingly pay attention to things that might help organize their time”*. However, it is important to emphasise that *“a woman expecting child has different interests than a future wife or a woman aged 50+”* (Jerzakowska, 2013c, p. 30). Men have a narrow field of vision, women on the other hand have a peripheral sight, better perceive high-pitched sounds, recognize more flavours and are

much more sensitive to touch (Pawlikowska-Poleszak, 2012, p. 73). They can see details that men cannot. Women are also more often ‘concerned’ and mention criteria unimportant for men. Women pay special attention to details as they cannot assemble the whole image of a given product. They add new information about a product instead of rejecting them. Men tend to communicate differently, they give details only when asked to do so. They are satisfied with brief information. Women start with broad descriptions and then come to the point. In conversations, they use expressions having a personal character². As mentioned above, women like resemblance (‘identically’) and emphasise it all the time. They instinctively support those in need (‘lift’). Ladies ‘exchange gifts’ – pay compliments to one another, show liking. This opens a whole new way of exchanging “social currency used by women, i.e. stories, personal information and secrets”. However, when one woman compliments other, she usually gets feedback on complimented product, the whole associated story which is sometimes too personal – especially in the eyes of men (Barletta, 2008 , p. 90-101).

Usually, they are driven by the same need, but with different motivation and they make decisions in totally different way. In case of men, there is a series of consecutive, defined stages (activation, nomination, research and succession). Women achieves success in a spiral pattern, see Figure 8-1 (Pawlikowska–Poleszak, 2012, p. 73).

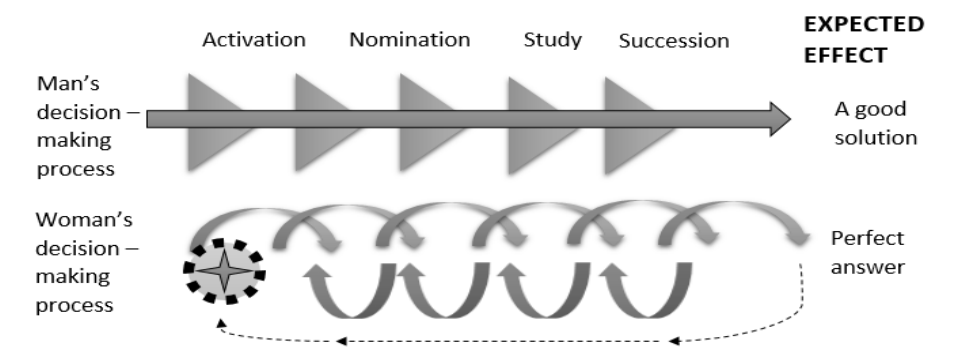


Figure 8-1. Decision-making process

Source: Barletta, M. (2008), p. 67.

A very complex and detailed female decision-making process and a simplified male decision-making process have been presented in Figure 8-2. Women much more often go back to the once concluded stage, gain new information and use them to think about their decisions. They search

² They are referred to as a ‘contact conversation’.

for 'a perfect answer'. Women search for answers among specialists, salesmen and fiends. *"Information they search for encompasses also contextual and subjective description of other elements, such as their friends-advisors' opinions whether or not a given detail is important"*. *"An impression made by a sales environment or salesmen themselves"* is equally important (Barletta, 2008, p. 128-129). *"A perfect answer"* is a woman's goal. Men on the other hand search for a good solution. When a man needs black trousers, he makes a list of criteria that these trousers should meet and then goes shopping. Once he finds a perfect pair, he just pays and leaves. If trousers do not meet all of the criteria, a man verifies the remaining features and if he finds deficiencies unimportant he buys the product anyway. A man prefers accepting the lack of one feature to going to another store. A woman on the other hand thinks in a contextual way, *"I need black trousers for a Monday presentation"*. She visits a store, looks for a black trousers and *"estimates their application to this event"*. She often tries on several pairs that would be suitable. Instead of rejecting certain criteria, a woman expands the list when considering her options. She thinks about other places where she could go dressed like that and checks whether these trousers can be washed in a washing machine etc. When a given offer does not meet all of the requirements and is not a 'perfect answer' to her needs, a woman visits other stores in search of the perfect product that would fulfil all of the criteria (Questionnaire pilot research, 2013).

Woman's purchasing process has a spiral shape because after making initial assumptions at its beginning she spots other products that fulfil the criteria and therefore she adds them to the list and starts comparing features again. Access to new information causes going back to previous stages of the purchasing process. The thought process often focuses on the fact – unless the payment has been made the decision can always be changed. The conducted pilot research indicate unanimously that the woman's purchasing process is much longer than man's in an analogous situation. Women need 40% more time than men to make a decision concerning purchase (Questionnaire..., 2013).

Women are also driven by personal loyalty when they establish positive contact with a salesman. They feel guilty when they are served well but nevertheless decide to make a purchase in another store. Unless the competition has a crushing advantage, they will probably finalise the purchase in a store with better customer service quality. In case of regular sales contacts (e.g. with a sales advisor), a woman trusts a salesman and becomes less and less involved in transactions, as opposed to a man (Questionnaire..., 2013).

During the purchasing process, ladies often *"use advices and suggestions of other network users or even give advices themselves"*. Resiliently developing social media allow women to freely gain information, establish and maintain contacts with the family and friends and develop their passions (Questionnaire..., 2013). *"PEW Interne & American Life Project research indicate that ladies value three things the most in the Internet: content, convenience*

and community". Women most often use services connected with jobs, lifestyle, education, tourism and community. They often make purchases via Internet, most commonly books, CDs and movies. In case of Internet auctions, they most often buy clothing and jewellery. Women are very active in the web – they write, create and advise. They are active users of fora and write their own blogs (Dobrowolska, 2011).

Apart from establishing relations, another important aspect is the channel through which the information is transferred, as *"each gender has its 'media habits'. Men consume TV differently than women. They watch other shows at different broadcasting hours"*. Same rules apply to other media – press, the internet and radio. There are less differences in perception in case of outdoor media, but even then the colours and shapes used affect the perception of the communication by representatives of both genders.

Also the language of the communication should be different for both genders. *"This is why cars sell 'taking pleasure in driving' and creams – "unique sensations"*. *"Advertisement has a gender, but one has to be [...] cautious in firm division of messages and their location into female and male-oriented"*. *"Please remember that even if it is man who buys a car, it is woman who affects his decision in tremendous way"* (Lenarczyk, 2011, p. 44).

Another important communication channel in case of a gender marketing is the Internet. A major part of bloggers are women. Typically, a female blogger is usually aged 20-35, with secondary or higher education with permanent access to the Internet. *"Such person is energetic, open to world, searching for new forms of expression and willing to share its opinions"*. They are fascinated by motherhood and their children. They share their opinion on fora dedicated to maternity and children. Research indicated that women (particularly mothers) are willing to cooperate with the producer. They want to be the brand ambassador if they receive product samples – information posted on their blogs has to be reliable, therefore a woman has to test product first in order to form an opinion about it (Dobrowolska, 2011, p. 14).

To sum up, modern women are caring, protective, open to new solutions and technologies. *"They value everything that helps them save time and organize their day"*. *"For a woman, the Internet has evolved from an entertainment centre into a source of [...] valuable information and a field of exchanging experiences with people in similar living conditions"*. Finally, most importantly, this field is a perfect place for marketing communication (Jerzakowska, 2013a, p. 51).

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9. E-HEALTH AS A KEY ELEMENT FORMING THE COMPETITIVE ADVANTAGE IN HEALTH PROTECTION

ABSTRACT

The article presents the issues associated with the impact of e-Health solutions on the competitiveness of a medical entity mainly from its patients point of view. The author makes use of an empirical material gathered in course of research carried out in the spring 2013 in the group of patients of LUXMED Medical Centre in Lublin. The goal of the research was to determine the role of e-Health solutions in the process associated with building competitive advantage of medical entities. Moreover the impact of e-Health solutions on the choice of specified medical entity by the patients was also determined.

KEY WORDS:

e-Health, medical entity, competitiveness

9.1. Introduction

Actual market requirements and increasing patients expectations in the scope quality and availability of medical services tempt the providers of these services for searching for and apply more advanced course and forms of action. The completion between the providers of medical services forces them to make permanent efforts in order to find the solutions enabling the achievement and maintenance of their competitive advantage. In today's world, the information and communication technologies (ICT) are an element essential for building competitive advantage. They are applied in the health care systems in the whole sector providing medical services but also in other areas of human activity (e-trade, e-banking, e-learning etc.). As a result of dynamic development in the scope of ITC and Internet technologies, new opportunities have been created for doctors, their patients and health service managers (Czerwińska, 2013). Wherever the information and communication technologies are used in the health service, one can say that e-Health solutions are applied. The scope of e-Health solutions encompasses the solutions supporting the medical entities

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management, the diagnostic and treatment process more efficient as well as facilitating the use of medical services by the patients.

The term e-Health is a neologism still without any precise definition: although as many as 51 definitions of e-Health gathered by H. Oh, C. Rizo, M. Enkin, A. Jadad may be found in Internet (Oh, Rizo, Enkin, Jadad, 2005). The e-Health has been defined by the European Commission as “the application of modern *information and communication technologies in order to meet the needs of citizens, patients, personnel employed in health service sector, the entities providing health care as well as decision makers in the scope of health protection*” (EC 2003).

However in the opinion expressed by the World Health Organization (WHO) “e-Health consists in an effective and secure use of *information and communication technologies in the health protection and associated areas including but not limited to: prevention, medical literature as well as health education, knowledge and scientific research*” (WHA 2005)

The definition created by G. Eysenbacha (Eysenbach, 2001), is said to be the most frequently cited definition of e-Health saying that e-Health comprises the features of the fields of medical informatics, health protection and business activity. e-Health constitutes the domain of medical informatics associated with the organization and rendering of medical services as well as medical data transfer and management by means of Internet and technologies associated with Internet. In the broader sense, this term does not concern only the technical aspects of rendering of medical services but determines the new way of work, attitudes and thinking in order to improve the health care on local, regional and global level by means of communication technologies.

The purpose of e-Health instruments is to contribute to the provision of medical care services on higher level, to support effective rendering of medical services, to improve their quality and availability. Their another purpose is to reduce social expenditures for health care. From macroeconomic point of view, e-Health contributes to the assurance of economic growth through its impact on productivity and competitiveness level in health care.

There is a high saturation in the scope of service providers in the scope of medical care, particularly in case of non-public sector. The competitiveness on the medical services market gives patients the possibility of choice of the best provider of medical services (in accordance with their preferences).

The competition between medical entities characterizes by many different levels and is associated among others with catalogue of rendered services, sophistication of medical technologies, professional medical personnel and service quality. All these areas can be supported by e-Health solutions. ICT technologies contribute to the market position consolidation, acquisition and retention of customers, ability of the company to stand out from the competition in the market as well as to the improvement of and services quality and to the way of entity management.

The subject of discussion presented in this article are the issues associated with possibilities to use e-Health tools in the process associated with the achievement and forming of competitive advantage in the market of medical services and their perception by potential services recipients.

9.2. Sources of Competitive Advantage in the market of medical services

The market of medical services is characterized by its specific features mainly resulting from the nature of medical services being sold in this market. The typical features of health services specified in the literature are (Wiercińska, 2012):

- lack of stable demand in the scope of health care,
- heterogeneity and random character of this demand,
- irrational behaviour of health care consumer,
- high inner diversification of available line of services,
- presence of specific preferences in individual segments of patients,
- making the decisions in the scope of health protection sector in a manner proper for regulated market mechanism.

Moreover the medical services are also characterized by other features common for all the services i.e.:

- intangibility – no relationship with the production of material goods,
- heterogeneity – diversity depending on the provider, location and time of performance,
- inseparability – simultaneous of rendering and consumption of rendered service,
- perishability – and consequential impossibility of storage.

Above mentioned features have the influence on the specificity of medical services market and determine the competitive activities which may be initiated by the entities rendering the medical services.

The information and its undisturbed flow between the service provider and service recipient is an extremely important element (factor). It concerns the information originating from patients which are required among others for correct diagnostic process, information supplied from medical personnel to the patients and concerning the treatment process as well as all less or more professional medical information which may be used by all the market participants (e.g. medical knowledge sources). The contact established with the patient is of vital importance for the health services. The special nature of the medical services is the derivative of their subject matter (health and life) and also is associated with special role performed by medical personnel acting in order to ensure

service quality. To a significant extent, the medical services are based on information. Therefore information and telecommunication technologies constitute an important element for management in medical services rendering area as well as an important and effective tool used in order to create, improve and maintain the competitive advantage in the medical services market. They improve the quality of rendered services and entity image as well positively contribute to its financial result among others through the impact on business running costs.

The conventional concepts in the scope of enterprise competitiveness are focused on real competitiveness factors and mechanisms. The competitiveness sources most frequently cited in the literature belong to the following groups:

- production group – having consequences for cost leadership and / or higher quality level,
- distribution group – associated with transport costs and better purchasers service,
- marketing group – better identification of market needs, better adaptation of the product and its distribution to said needs,
- technological group – priority achieved through: scientific and research works, technological innovation, products innovations,
- market place – brand mark, patents, reputation – brand loyalty of consumer towards brand mark and uniqueness of the product,
- uniqueness of the company and uniqueness of its product,
- management quality – professional management, management talents etc.
- knowledge and information – gathering the knowledge in the scope of production process, product, efficient information systems, purchasers etc.
- time management – speed of reaction (Szymański et al., 1995, page 156).

However the new concepts in the competitiveness scope emphasize the factor and mechanisms in regulation field. The following concepts in the competitiveness scope are considered as the new concepts in the scope of enterprise competitiveness:

- information and information systems (Internet, Intranet) – as the sources of competitive advantage,
- virtual organizational forms and enterprises networks,
- learning and knowledge based organizations (Brodowska-Szewczuk, 2009, page 91).

The discussion presented above and concerning the sources for building and maintaining of competitive advantage is truly applicable also in case of a medical entity treated as a service company.

9.3. Empirical Research

For the purposes of the present study, empirical research was carried out in order to investigate whether the specified e-Health solution are the factor contributing to the building of competitive advantage of medical entities and to the choice of specified medical entity by the patients.

The research was carried out in the spring 2013 in the group of patients of LUXMED Medical Centre in Lublin. The respondents group consisted of 50 persons. A structured questionnaire containing closed and open questions (13 questions included in the main questionnaire and 5 questions included in statistical part).

The purpose of the questionnaire was to present the issues associated with e-Health area, to identify the factors influencing the choice of medical entity as well as advantages of e-Health applications functioning in the entity. Among others the questionnaire contained the questions concerning the impact of solutions functioning in framework of e-Health (i.e. on-line reservation or results receipt via Internet) on the choice of medical entity.

As a result of completed empirical research it was possible to identify the factors influencing the choice of specified medical entity – LUXMED Medical Centre and to determine the degree of satisfaction with Internet medical services offered by this entity. The scope of research encompassed the patients' preferences, their experiences, feelings and expectations towards the activities in e-Health area taken by LUXMED Medical Centre.

The structure of sample has been identified on the basis of the respondent's statistical part (standards set of questions i.e.: age, sex, education, professional status and residence).

The questionnaire was completed in LUXMED Medical Centre in a direct manner.

The respondents were selected from among the patients of LUXMED Medical Centre, because this entity applies e-Health solutions i.e. on-line reservation or results receipt via Internet) and its position in the local market of medical services in Lublin is strong. The purpose of the research was among others to determine whether the use of a/m solution by LUXMED contributes to the consolidation of its market position.

The material gathered in the framework of completed survey in the scope of use of e-Health services by the patients of LUXMED medical entity contained 50 questionnaires. The participants were the persons in age between 18 and 65 with diversified professional status.

The respondents group consisted of women (60%) and men (40%) of sample being tested. They were mainly full time employees (42%) with university degree (56%) living in town (60%).

Almost 40% in respondents group were the persons aged 25-35, only 6% were the persons in age above 55 years. Due to high percentage of young per-

sons in the group it may be concluded that selected group is open towards new technological solutions.

The respondents determined the elements to which they are paying attention and the factors influencing their decisions on the use of services rendered by specified medical entity (Table 9-1).

Table 9-1. Determinants for medical entity selection

Answer	% indications
Highly specialized medical staff	97.5
Easy and quick access to examinations results	87.5
Possibility of examinations results receipt via Internet	82.0
Short waiting time for specialist visit /diagnostics	80.0
Possibility of visit reservation via Internet	77.5
Possibility of specialist choice in on-line mode	75.0
Possibility to use helpline service	75.0
Easy access to the entity	55.0
Possibility to use medical services reimbursed by NFZ	32.5
Competitive price	0.0

Source: own study on the basis of conducted research

The purpose of this question was to show the values taken into account by the patients at the choice of medical entity.

From the summary of answers presented above it appears that first of all the qualifications of medical personnel are taken into account by the patients at the choice of the location of examinations and treatment. This factor taken into account by the patients at the choice of medical entity is indicated by as many as 97,5% of respondents. The patients look for the best specialists. It is an element essential for the competitive advantage building. Easy and quick access to examinations results is another important factor (87,5% of respondents). From completed research it appears that facilities created by e-Health: possibility of examinations results receipt via Internet (82% of answers), possibility to book a visit (77,5%) and possibility of specialist choice in on-line mode (75%) are the essential determinants for medical entity selection.

The other factors of choice were mentioned by the respondents less frequently. It is significant that there is no influence of the price of rendered services on the decisions concerning the choice of treatment location – such answer was given by none of the respondents.

Respondents also declare to encounter advantages associated with the use of e-Health solutions. More than 50% of them find that e-Health applications, mainly the Internet – based patient service system, make it possible to save time.

20% of respondents appreciate the fact that they can familiarize themselves with the offer of an entity presented on its website before visiting this entity. In the opinion of similar number of respondents, e-Health service can improve the accuracy of diagnostics and applied treatment.

Despite the fact that the conventional factors (e.g. qualifications of specialized doctors or distance from the entity) are still prevailing factors influencing the choice of medical entity, we can notice increasing role of IT factors in the process associated with the choice of location of medical service facility. The scope of said IT factors encompasses among others: possibility of examinations results receipt on-line and possibility to make visit reservation on-line.

In course of research the patients expressed their opinions on possibilities associated with on-line registration. The results are presented in Table 9-2.

Table 9-2. Evaluation of on-line registration

Answer	very good	good	poor	very poor
	% of indications			
Fast registration	55	35	10	0
Smooth completion of formalities	40	55	5	0
Information on how to prepare for visit	25	67.5	5	2.5
Choice of doctor, day and time of intended visit	7.5	67.5	17.5	7.5
Registration at the time and place convenient for the patient	7.5	72.5	10	7.5

Source: own study on the basis of conducted research

In general, on-line registration is positively assessed by the patients. The greatest number of negative opinions (poor and very poor) was denoted in case of possibility of the choice of doctor, day and time of intended visit. This is most likely caused by the dissatisfaction of patients resulting from insufficient number of specialists and limited time of their visits. This situation is not caused by IT solutions applied by the entity but by insufficient supply of skilled specialists in a given domain.

In the opinion of 77,5% of respondents, it would be desirable to extend the catalogue of IT solutions applied by LUXMED. The proposals of additional functionalities found desirable by the patients are illustrated in the Figure 9-1.

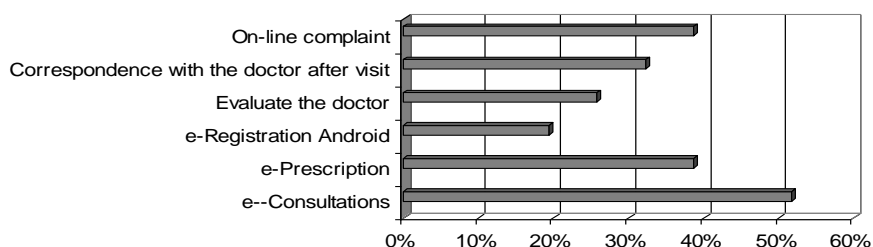


Figure 9-1. The proposals of additional functionalities found desirable by the patients of LUXMED Centre

Source: own study on the basis of conducted research

The proposals indicated by the patients reflect the trends in the development of ICT applications in medical services where more and more frequently e-Health is substituted by m-Health consisting in the use of mobile telecommunication devices i.e. smart phones, tablets or PDA in order to support the treatment, diagnostics and the rescue of human life.

9.4. Summary and directions for further research

e-Health tools are and more frequently used by the medical entities. Except of their direct impact on the quality and availability of health services, they are perceived and used in the process associated with the achievement and forming of competitive advantage in the market of medical services, which is reflected in the fact that they occur in the catalogue of factors influencing the choice of a medical entity by the patients. The completed research demonstrated that although e-Health services offered by LUXMED (on-line reservation or examinations results receipt in on-line mode) are positively assessed, they are not sufficiently significant at the choice of a medical entity by the patients. Mainly the conventional factors i.e. qualifications of the employed medical staff or waiting time for the service are still taken into account by the patients deciding to make use of services provided by a medical entity,

The degree of patients' satisfaction with on-line medical services offered by LUXMED is quite high but they propose to extend the catalogue of e-Health services. It seems that the extension of the scope of e-Health services in the form of m-Health services may additionally increase the influence of these factors associated with the choice of a medical entity and will contribute to the improvement of competitiveness.

The research on the sources of competitive advantage perceived by the medical entities and their executive staff would be the development and continuation of the undertaken theme. This could help to comprehensively identify the issue

associated with the forming and consolidation of competitive advantage by means of e-Health services.

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10. SOCIAL NETWORK AS A PLACE TO PROMOTE COMPANIES IN THE ENTERTAINMENT INDUSTRY

ABSTRACT

This chapter relates to use of social network as a place for marketing activities. The subject of research is a company in the entertainment industry. It was performed an analysis of the company's activities during the period of five weeks on Facebook, in a case study. It was pointed to a number of problems in the management of the company's Fan Page. These are mainly: little involvement of the fans and the low level of interaction fans with Fan Page's company, a small business visibility and stand out from the competition, the failure to prevent the company against the stereotypical perception of speed-dating by society. It was also proposed to solve these problems by: engaging company in dialogue with fans, create a gravatar of the company, which will increase the visibility of company in the network, conducting of the competition with prizes on Fan Page's company, the measurement of the results of the actions.

KEY WORDS:

social network, promotion, entertainment company

10.1. Introduction

The economy in the twenty-first century in post-industrial world is characterized by global interdependence of economic actors. *“Capitalism itself has undergone a process of profound restructuring, which is characterized by: a more flexible management, decentralization and networking companies, both internally and in their relations with other firms(...)”* (Castells, 2007, p. 19). Companies struggling with competition lead a variety of activities aimed at improving their market position. Social media are a means of building competitive advantage. However, that could be used to build such advantages must be properly used. Based on the theoretical grounds of literature of the subject the aim of this chapter is to diagnose the use of social networking in marketing activities the company in the entertainment industry. Methods applied in the presented studies were: a case study, survey and interview.

Following that diagnosis the company's errors are identified and formulated problems to solve. Then are shown solutions to the problems and were presented possible effects of the implementation of the proposed solutions.

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10.2. Social media and social network

Social media is defined as:

- *“a group of applications and solutions based on internet, which ideological and technological grounds are Web 2.0, and which allow the creation and exchange the contents generated by users”* (Kaplan & Haenlein, 2010, p. 59–68);
- *“each side on the Internet, where there is interaction between the users, is a social medium”* (Czaplicka, 2014, p. 10).

There are other interesting definitions about social media:

- *“Social media has not changed marketing from monologue to dialogue, but in multilog”* (Falls & Deckers, 2013, p. 22);
- *“Social media is the wave of the future. She will not stop”* (Falls & Deckers, 2013, p. 31);
- *“(…) social networks you are performing countless conversations in which theoretically can participate thousands or millions of people at once”* (Kerpen, 2013, p. 16).

In contrast, social network, also called social portal is *“a special case of social media – it's a service, whose purpose is to create community (through the possibility of setting up an individual profile) which may come together to interact on different levels”* (Czaplicka, 2014, p. 10).

The main types of social networking are as follows:

- general services, addressed to all Internet users and on all matters of interest, such as: Facebook, Google+;
- specific services, which in turn are divided into:
 - services addressed to specific groups, such as former pupils or students, e.g., Nasza Klasa (now nk.pl), in Ukraine Odnoklassniki,
 - thematic services, such as: music, film,
 - services for the exchange of materials, e.g. chomikuj.pl,
 - trade services, e.g., Golden line, LinkedIn,
 - virtual games,
 - social virtual worlds such as Second Life,
 - educational and information services, containing elements of social networking, e.g. cafe allegro.

Some authors belong to social networks as chat rooms, blogs, message boards.

Unquestionably the biggest general social networking is Facebook. This portal allows individual users interact with each other. It is used by a company to its advertising and promotional activities.

10.3. Social marketing in business

Social marketing involves *“moving beyond the expectations of customers, often (...) in the virtual world using the relationships between people and creating relationships”* (Falls & Deckers, 2013, p. 35).

Social marketing should enable businesses to achieve the following effects:

- *“Branding,*
- *protection of brand reputation,*
- *improvement of public relations,*
- *creating your own community,*
- *improving the quality of customer service,*
- *simplifying the research and development,*
- *increasing the number of potential customers”* (Falls & Deckers, 2013, p. 40).

The next chapter will be presented research the use of social media by the entertainment company in its marketing efforts. It seems that social networking sites are an appropriate medium for advertising companies in that industry. But, are there these activities carried out properly? What should be improved in order to enable the company to achieve the above effects? The analyzed company conducts promotional activities on Facebook. The company's activities on this website will be analyzed, will be identified problems and will proposed a solution to the existing problems.

10.4. Use of social network in marketing activities the entertainment industry company

10.4.1. Consumer expectations of companies in the entertainment industry

Because the analyzed company conducts marketing activities on Facebook it was conducted the study of customers' expectations in relation to products companies in that industry. In order to clarify the expectations of the consumers to the products of the companies in the entertainment industry it was conducted a survey via an online among Facebook users. The survey was conducted in the spring of 2013 for the sample 104 respondents. Consumers of the entertainment industry are mostly young people, unmarried, learner. Respondents are mostly from big cities – more than 100 thousand (almost 70%). The majority of respondents (70%) declared that the status of the student. 25% of respondents were people working. Average monthly income below 500 zloty was declared by 24% of respondents, as revenue more than 1500 zloty (25%). Most respondents identified their income at 500-1000 zloty (32%). Such a value of income may be due to the fact that the majority of respondents were students. Their only source

of income are money from their families, scholarships or casual work. Frequently also they are not able to work full time.

Way of leisure by the test person is varied. Often it is the use of the internet. Over 70% of respondents use the internet for more than 2 hours per day, of which 34% people spent on it over 4 hours. 28% of respondents spend on the internet from 1 to 2 hours per day. The time that respondents spend on internet use is long.

The use of online marketing by companies in the entertainment industry is justified – here much of the time spent the desired target group. The chart below shows the reasons for using the internet (in question they could select more than one answer).

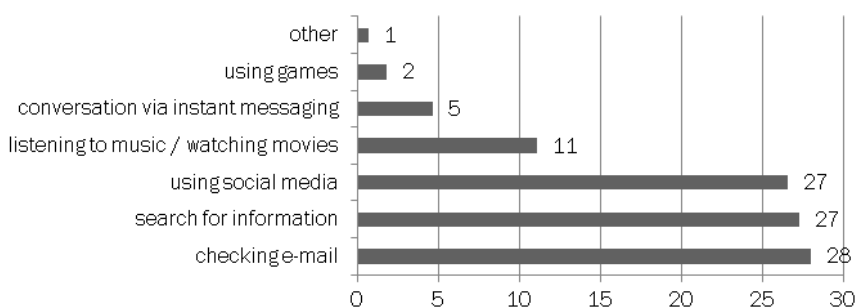


Figure 10-1. Reasons for using the internet,% of responses

Source: Author's own work

Respondents mostly use the internet to search for the information you need, to check your e-mail address or checking account on a social network (such as: Nasza-Klasa, Twitter, Facebook, MySpace). Less frequently they listen to online music or watching movies. A relatively small number uses the games offered on the internet or is talking on massagers (e.g. gadu-gadu, Skype). Most of the respondents declare to have an official account on sites like Facebook and Nasza-Klasa. Insignificant number of respondents have accounts on other social networking sites such as Twitter, MySpace and Golden line. Fictitious accounts on social networking has less than 8% of respondents. It means that the vast majority of website users are real people, not so 'dead souls'.

72% of respondents have a Facebook account over a year, including more than 30% over two years. The most common reason for an account on Facebook was to stay in touch with your friends – this answer was marked 85% of people. Another of the reasons was to follow the fashion and the desire to appear on the site where the account they already have friends. Such a reason reported 20% of respondents. Rarely indicated there were other responses, such as the desire to take advantage of special discounts offered to account holders by commercial

companies, the desire to meet new people and make matrimonial contacts. Other given causes to have an account on Facebook were related to the professional activities usually associated with the need to track the activities of other companies and promotion of the company on social networks.

Respondents mostly use Facebook features such as 'like button' pages, chat or adding or sharing photos / videos / information on its side. Relatively rare, they benefit from the application, as well as the ability to create groups. Respondents rather sensibly use the 'like button'. They use it only for 'like it' elements that really interest them. The majority of respondents say that sometimes clicks on items previously selected by their friends.

As for the pastime, the majority of respondents prefer their free time to spend at home watching TV or playing on the computer. This answer was declared by 80% of respondents. The next most commonly chosen answer is to spend time in a club or pub – 48% of people. The same percentage of respondents actively spends his free time such as travelling or practicing sports. Less popular are going to the cinema, concerts and charity.

On average, respondents in a month spend on entertainment from 100 to 500 zloty. Such amount declared about two thirds of the respondents. Below 100 zloty dedicating 34% of respondents. Expenditure over 500 zloty declare less than 2%. Although entertainment expenses in this group are not too high, it represents for companies in the entertainment industry an important target group. People aged 19-29, mainly students and people starting their careers, are pioneers when it comes to setting trends and shaping opinion among the public. This is the basic argument in favour of directing the advertising is to this group.

10.4.2. Characteristics of company in the entertainment industry – case study

The studying company is a entertainment industry company offering the so-called speed-dating (speed-dates). It was founded in 2010 and it is a civil partnership. It is a micro company, the company employs 10 people, in addition to the owners. Tasks of accounting are outsourced to an external company in the form of outsourcing.

The offer includes the so-called speed dating, it is a few minutes (5-8 min.) meetings, where you can chat with multiple people in a relatively short time. They consist in the fact that couples are sitting at the table and talk. After a certain time, leading beeps (usually it is ringing), and the men change places to the next table – in accordance with a predetermined sequence. Each participant receives an identifier with your name and card, which indicates whether it is interested in further knowledge of individuals. If the selection of participants will cover the next day, both parties receive from the organizers contact details (name, e-mail address, telephone number) caller. In the case where only one

person selects the desire to maintain contact data is not transferred. Performance dates are sent to individual participants of the meeting by e-mail, which is given during registration.

About the company offer you can learn from her website, Facebook profile, the cultural sites of the city, flyers and posters. Registration for the meeting speed-dating take place using the contact form on the website of the company. It must be selected the appropriate age range and date of the meeting, and then specify details such as your name, e-mail, phone, and sex. Fees for participation in the meeting shall be paid to the organizers directly before the meeting. 'Speed dates' is organized in eight Polish cities, such as Krakow, Katowice, Lublin, Poznan, Lodz, Wroclaw, Rzeszow and Radom. The cost of participation in the games varies depending on the city from 20 to 30 zloty. The maximum number of participants is from 26 to 40.

Speed-dating is an opportunity to meet many new people in a short time. The idea of speed dates has been aptly recognized on the company's website: *"With the speed dates the meeting new people becomes much easier, and not only during the games, but also in everyday life"*. The company's offer is targeted at different age groups and meetings are organized for people in the following age groups: 19-30 years, 25-33 years, 31-42 years, 40-50 years.

The most popular are now dating in the range of 19-30 years. The young age of the participants has an impact on their openness to networking and the desire to experience something new, exciting and unforgettable. For the first two age categories (19-30 and 25-33 years) meetings are held periodically, at intervals of 31-42 and 40-50 dating held only if they save the appropriate number of people, at least seven persons of each sex. Then it was set a time for the meeting, which shall be informed of all who came forward.

10.5. Presence of the company on Facebook

The speed-dates company Fan Page is run on Facebook from 9 September 2010 and has more than 300 fans. On the website is published articles on the broader psychology (among others relationships between men and women, love, dating, singles, etc.) and funny images, associated mainly with entertainment and active recreation.

From interviews conducted among participants speed-dating results that most of them took part in the meeting for the first time, and the decision to take part was rather taken spontaneously. Most frequently cited reasons for participation were friends recommendation, the desire to 'keep company' another participant, the opportunity to meet many new people in a short time, as well as participation in matrimonial purposes.

Speed-dating is associated generally the participants with the ability to meet many people in a short time, good fun, as well as an amazing, exciting experience. They usually shared information with your friends and colleagues about

the planned take part in the meeting. Some people have not said about its participation in the speed-dating anyone or only the closest friends, which may indicate a fear of lack of acceptance on the part of the environment.

This lack of acceptance could result from poor knowledge of this type of entertainment in Poland. It is available recently on Polish market. Stereotypically speed-dating is sometimes associated with the office of matrimony, and those participating in it with people with problems, not a knack for building relationships in normal circumstances and conditions.

According to participants speed-dates the most common reasons for taking part in the meetings of this type is the desire to experience something new, fun opportunity, to explore future partner and the ability to work on your own self-presentation. As posing a barrier to participate in this type of play it were given the relatively high cost of participation, lack of acceptance on the part of the environment or shyness.

The observation the speed-dates company's Fan Page on Facebook and its website was aimed at, among others find an answer to the question of the existence of correlation between the number of people participating in the meeting speed-dating, and increase fans on the speed-dates company Fan Page. Also of interest was the change (increase / decrease) the activity of the company's fans on Facebook, compared to the number of meetings held. The observation was carried out for a period of five weeks.

At the outset, it was presented data on the observation the website in days preceding the respective dates. Obtained data related to the number of dating sites that take place in specific cities and the number of people who participated in them. Next observation the company's Fan Page included a period of seven days immediately following the date of dating. The following table shows the relationship between the number of people involved in the speed-dating, and increase fans / comments / 'like it' on Facebook.

It can be seen that during the period of observation gain fans were in some way related to the number held dating. Basically, the more dating sites, the greater the number of fans who have joined the Fan Page over the next week. Number of messages added was not dependent on the terms of dating. The same applied to the number of comments and clicks 'like it'.

Table 10-1. Comparison the number of dates with increments of indicators on Facebook

Dating term	Number of dates	Number of person	Increase of fans*	Increase of posts*	Increase of comments*	Increase of 'Like it'*
1th day	1	24	7	6	0	1
6th day	1	23	5	5	0	4
12th day	5	147	9	4	0	1
23th day	1	27	1	2	2	1
26th day	3	84	3	4	2	1
33th day	4	120	—	—	—	—

Source: Author's own work based on observations the company's Fan Page

* data refer to the following seven days immediately following the date of dating and are the sum of the values observed during this period

The research also shows that the activity of the fans during the observation period was rather small. In the analyzed period, the number of fans increased, but it was a rather mild increase. It never happened to a fan during this period he resigned from membership of the Fan Page, or blocked company's messages display in their news.

It increases the number of fans present in each week.

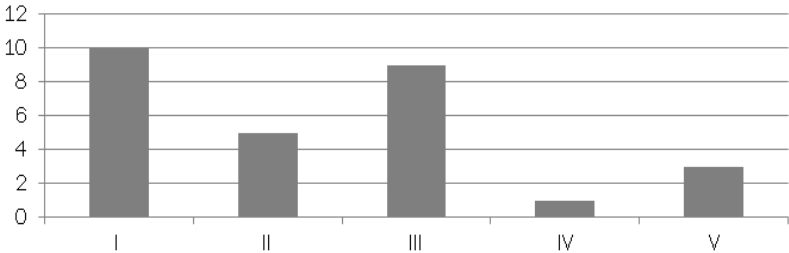


Figure 10-2. Increase the number of fans on company's speed-dates fan page in the coming weeks of observation

Source: Author's own work based on observations the company's Fan Page

From the above chart shows that the largest increases occurred fans in the first and third week of observation. In these weeks, the number of fans increased sequentially by 10 and 9 new fans. The lowest increase was recorded in the fourth week of observation and it was one new fan.

An interesting indicator is the number of people, "who is talking about it". It consists, among others, such elements as the number of 'like it', comments, facilities, marking company's Fan Page on photos or to participate in an event offered by the company.

The high value of this index may or may not necessarily correlate with high engagement fans. One of its drawbacks is the recognition of ‘likes’ pages that usually do not provide the commitment and may affect its value and be the cause of his subsequent misinterpretation. The chart below shows how change the distribution in time the number of people who ‘say’ about the company speed-dates.

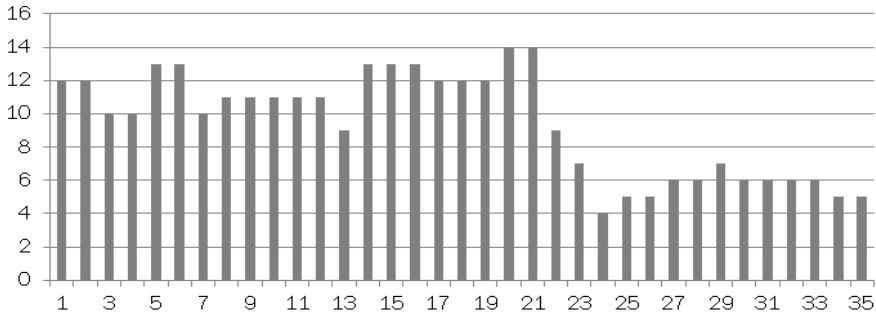


Figure 10-3. Number of people who ‘say’ about the company speed-dates in consecutive observations

Source: Author’s own work based on observations the company’s Fan Page

It can be seen that the number of people ‘talking’ about the company speed-dates for the first three weeks ranged between 10-14 people. In the fourth week, there has been a decline in the value of the indicator and the end of the study remained on the level of 4-6 people. They were not too high values compared to the number of people who ‘likes’ the speed-dates company Fan Page. This indicated a low involvement of fans in this period. In addition, it can be seen that the increase in fans remained in the period on the same level as the rate of people who ‘say’ about the company, which may indicate less commitment – ‘liking’ Fan Page’s automatically increases the value of this indicator.

Facebook profile can be quite a good form of promotion for companies in the entertainment industry, but in the case of speed-dates company does not meet its core tasks. The main problem is not a small number of fans, but rather small their involvement. As previously noted, the increase in fans recorded during the observation was small, and the increase in the number of comments and ‘like it’ insignificant. This means that the company Fan Page does not stop its users. Published contents are not for their audience's funny, or useful, because they do not decide to enter into interaction with the site.

Promoting business using the Fan Page for companies in the entertainment industry can be effective, but should be properly conducted. The main argument in favour of starting the business promotion in social media is being targeted groups on social networks – the vast majority of this group have access

to the internet, as well as an account on social networks. Start of promotion is also associated with a relatively low cost, as well as minor barriers to entry.

It was diagnosed following problems in the company speed-dates:

- little involvement of fans on Facebook and a low level of interaction with fans Fan Page company,
- small company's visibility, lack of interesting offers, which would stand the company against the competition,
- lack of understanding of the speed-dating – stereotypical perceptions of this form of entertainment in society.

Speed-dates company has been in the market a relatively short time. It is low recognized, is not yet known, stable brand. Participation in the meeting of speed-dating is often negative evaluated by the environment. This is mainly because of ignorance of the specifics of the company and the perception of it through the prism of stereotypes.

Promotional campaign using Facebook would be to improve the image of the company, to encourage consumers to take advantage of its offer, and building long-term relationships with existing clients of the company. In addition, promotional activities on Facebook, allow a referral message to the younger consumer groups.

As a result to identify the problems of the company it seems to be taking the following actions:

- company's commitment to dialogue with fans,
- create a company's gravatar (Globally Recognized Avatar), which will increase the visibility of company on the web by assigning a specific picture to an e-mail,
- conduct a competition with prizes on company's Fan Page,
- carry out measurement results (site statistics).

The activities will contribute to achieving the objectives of social marketing, that is, improve brand recognition and its reputation, improve public relations, will allow the creation of self-involved communities, improve the quality of the product offered by the company and will increase the number of potential customers. With the proposed activities the company can expect an increase in the number of customers and the long term growth of income.

10.6. Conclusions

The use of social media in marketing of companies in the entertainment industry seems to be fully justified. However, as demonstrated studies such actions may be ineffective or even harmful to the company. Social networks allow businesses to effective action, but on condition of company's engagement in their proper conduct. Today, the voice of a single client, both positive and negative,

can be quickly duplicated. Significantly shortened customers response time on enterprise offer, but must also shorten the business response time on customer comments. The study showed the use of Facebook in marketing a specific company. They were not appropriate and did not bring the desired effects. The company is relatively young, and almost from the beginning is present on Facebook. Existence company's Fan Page does not provide, however, the effects of increasing the number of customers. The company has not distinguished by anything in particular against the competition.

Its fans are not very active, and the company does not enter into dialogue with them. It is not also trying to change the stereotypical perception of speed-dating by society. The presence on Facebook does not bring the company any tangible benefits. In connection with the diagnosed problems it was proposed the use of a series of actions. They should affect its effective marketing in social media, which can translate into not only the survival of the company in a tough competitive market, but also on its development.

Every business presence in social media should conduct ongoing monitoring of their activities in order to strengthen the positive effects and reduce negative. Not all companies have to be present in social media and especially not every product must have a separate profile on social networks. However, the existence and growth of many companies depends on the effectiveness of marketing activities in social networks.

If the company does not perceive the risks, but at the same time opportunities associated with changes in the information society can expect the worst – his fall. Just like any other activity in the company requires knowledge, so the existence the company on social networks such knowledge requires. You cannot leave the company functioning in social media yourself. Early or later brings bad or tragic consequences of the functioning the company. The company should actively control your activity on social networks.

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