Development of the trends in Czech spas, with an accent on Russian spa clients

Tendencje rozwojowe uzdrowisk w Czechach ze szczególnym uwzględnieniem obecności klientów rosyjskich

Pavlína Pellešová, Miroslava Kostková
Silesian University in Opava, School of Business Administration in Karviná, Univerzitní nám. 1934/3, 733 40 Karviná, Czech Republic; e-mails: pellesova@opf.slu.cz, kostkova@opf.slu.cz

Abstract: The Czech spa has a rich history and is based on the use of natural medicinal resources, with a significant share of direct medical care coupled with a comprehensive approach to treatment admissions. The trends set in Czech spas are affected more and more by foreign clients, which compensates for shortfalls of the domestic clientele. Russian guests are one of the most important groups of the Czech spa clientele. The article discusses the development of trends in Czech spas, with an accent on the Russian spa clientele. Trend analysis was carried out using the method of scenarios, where opinions of experts are compared with the results of surveys.

Key words: spa, the Russian clients, analysis of the trends, the Czech spas

Introduction

The spa industry has developed as a result of public health becoming one of the most important indicators of the quality of life. Spa care is important for general health. The aim of the spa treatment is to treat diseases using natural medicinal resources and lower the burden of pharmacotherapy for the body in order to prevent the deterioration of the health of patients, assist in alleviating health problems, prevent diseases and complete the aftercare process. In addition, the health and preventive functions of spa tourism are significant. Services of spa tourism are the basic health and medical services (treatments), accompanied with accommodation services (spa hotels, homes, pensions, etc.), dining, and cultural, social, sporting and additional programs (financial, business, transportation, etc.). Spa tourism ensures the recovery of the organism, strengthens physical health and mental balance. The support for the spa industry was approved by the Government of the Czech Republic and is enshrined in the Concept of state policy of tourism development in the Czech Republic since 2008 (Kulhánek, 2015).

Spa trends

The European spa industry is based on the amount and number of patients divided into spa powers (e.g. Germany, Italy, France), countries with a significant share of spas (e.g. Czech Republic, Austria, Hungary, Switzerland, Slovakia, Slovenia, Romania, Portugal, Spain, Greece), with less significant spas (e.g. Belgium, Ukraine, Poland, Russia, Finland) and countries with low significant spas (e.g. the United Kingdom, Scandinavia, the Netherlands). Currently in Europe, there are two streams of the spa industry:

– traditional medical spa treatment with a strong medical background (e.g. In Germany, Austria, Czech Republic, Slovak Republic, Poland);
– the term spa also includes wellness and medical tourism (e.g. in Spain, Italy, and France).

Scandinavian countries use spa and wellness as disease prevention.

Both of these streams compete with the dynamically changing environment and views on the development of spas. The first opinion is that therapeutic stay should not be less than three weeks, because it is only after this period of time that the full benefits the treatments are observed and experienced. The second opinion is in response to changing market demand, which is reflected in the increasing interest in revitalization and restorative relaxation, where the stays are shorter, usually ten days long, weekly or weekend long (Vampulová, 2015).

According to the surveyed requirements of the guests at the spa stay, which were published in 2003 in the journal Economic tourism revue, ‘in European Union countries, 67 % of the clients await relief from spa stay or cure their health problems, and nearly 50% are looking for peace and recovery from everyday stress in an undisturbed natural environment’. According to the research project WelDest (Development destination health and well-being to support the spa and health tourism
means Health and well-being), the most important aspects of the modern spa include a single brand perception, the combination of expertise and skills, both in relation to treatment with a wider customer care, and the level of services in tourism (Dvorak, et al., 2015). Factors such as reputation of destinations, natural and urban environment, local products (local gastronomy, events, culture) should be coordinated within the context of cooperation between the public and private sectors, in order to ensure effective fulfillment. According to the research, by the term ‘do something for your health’, most of the spa guests imagine the most relaxing and pampering spa services. The most common need for the selection of the health and relaxation holiday is the escape from the stress of everyday worries, including mental refreshment.

For the spa business, being a step ahead, ready for what the customer will expect in the long term, is one of the advantages. According to the survey (WKO, 2014), there are megatrends which, if properly understood, can help us to predict the future and also shape it.

The megatrends include:
- Individualization – in a society that gives us more and more individual freedom, but also increasingly forces us to make decisions according to changing values; creating very specialized segments.
- Female Shift – the transformation of the traditional roles in the family, and the new role of women brings many new opportunities.
- Silver Society – an aging society, life expectancy is increasing worldwide. Nowadays aging is connected with rejuvenation of social behavior (i.e. down aging).
- New teaching – education is the key to a bright future, which provides support for individual talents, as a prerequisite for innovation and social growth.
- New Work – our society is in transition from an industrial society to an information society, changing work environment, service, information and creative workers are in the centre of the focus, the boundaries between professional and private life decrease, with new forms of work.
- Health – Healthy no longer means just the opposite of disease, but also awareness of the energy balance of an individual’s life. Consequently, medicine has turned into a growing sector of producers and consumers. Health is a good marketing argument and has penetrated into all areas of life and consumerism and into the world of work under the slogan of ‘Corporate Health’.
- Neoecology – stands for sustainability and efficiency in all areas of life, ‘bio’ becomes the new standard.
- Connectivity – indicates a new organization of humanity in interconnected networks. The trend towards openness and transparency transforms the whole society.
- Globalization – in the current chaotic phase of globalization, a new, more comprehensive system of rules arises, increasing the importance of gaining immediate regional links; where globalization has become ‘glocalization’, i.e. global localization.
- Urbanization – the city is more and more the cultural, economic and creative center of the world.
- Mobility – is a fundamental prerequisite of our lives and economy. The global economy depends on it. Whether in the future we will be able to increase the quality of life, depends on not only our concept of mobility, but also on our mobility behavior.

A study of the Swiss company Prognos from 2010, entitled ‘Medical rehabilitation of workers – ensuring productivity and growth’, surveys the impact of rehabilitation on the German economy. This was the first study able to precisely quantify the benefits of rehabilitation. The rehabilitation expenses in Germany are 1.1 billion Euros annually. The overall impact of this rehabilitation has a value of 0.3% of GDP, which is 5.8 billion Euros. To summarize: every 1 euro invested in rehabilitation care in Germany generates more than 5 euro. Considering current demographic trends and the extending time of people working, and also due to the increase in the number of chronic diseases, it is also expected that the net economic benefits arising from medical rehabilitation would be in 2025 more than 23 billion, which is almost four times the current day amount (Špaček, et al., 2011).

The opinions of experts (Ministry of Health, 2013) have defined these trends in the Czech spa industry:
- Do something for your health or regenerate.
- Medical wellness (50+ generation & generation in their thirties), future of medical beauty.
- Preventive programs with contributions from insurance companies (up to 150 euro per year).
- Lifestyle – anti-aging.
- Conventional treatment – ‘power of the mineral spring’.
- Comfortable accommodation in spa hotels.
- Treatment of natural resources – mineral springs, gas and peat.
- Drinking cures and treatments directly in the hotel.
- Relief from pain, improvement of mobility.
- All services under one roof.
- Medical expertise, qualified medical staff and a team of medical specialists.
- Special preventive programs for children.
- International Certification for spa centers (TUV, EUROPE-SPA med, Medispa etc.).
- Quiet parks available, pedestrian zones, concerts and a rich cultural program.
- Card discounts (coupons) and benefits.
- Wellness and water parks with thermal waters.
- Moving away from ‘mega hotels with all inclusive’ to traditional values.
- Connection with nature, ‘sustainable development’.

During the last 10 years, a series of spectacular spas investments has been made. Nowadays, all spa facilities meet the highest standards and meet the expectations of even the most demanding clients. The majority of spa guests is made up of domestic clientele (55%). The highest proportions of foreign clients are guests from Germany. Czech spas have the longest average stays of both domestic and foreign guests. A good response comes from the east, where spas are recognized and appreciated as a good balance between quality and price.
Development of the trends in Czech spas, with an accent on Russian spa clients

Identification and quantification of the spa benefits for the Czech Republic

The Czech spas experienced unprecedented prosperity, especially in the 19th century, but also a decline during the two world wars and the totalitarian regime. The path to prosperity started after 1989. Large investments have been made into infrastructure, outdated buildings. Spa facilities have undergone extensive renovation and modernization. With the increase of accommodation capacities, the employment in spa employees is also rising. The quality of services is steadily increasing. This is necessary to obtain and maintain a leading position of Czech spas in the world market. Spa resorts are attractive not only because of their urban character, but also as a result of their environment and historical monuments. The Czech spa industry is based on the usage of unique natural medicinal resources. The good quality of natural healing resources attracts clientele from around the world. The Czech spas are still widely used by domestic clients. In recent years, there has been an increase in the portion of foreign patients (foreign clients in 2013 recorded 3,121,851 overnight stays). Spa facilities are of natural interest to the foreign clientele, which ensures greater prosperity and opportunities for further development. The first place in spa usage is taken by Germany (in 2013 – 39,993 guests), the second place, by a large margin, is taken by Russia (in 2013 – 23,582 guests), although the trend in the number of arrivals and overnight stays is quite irregular. Spa guests from the TOP 5 – resource countries (Germany, Russia, Ukraine, Austria, and Slovakia) represent approximately 85% of all guests – foreigners. The spa industry also acts as a complex of economic activities of different sectors and disciplines, delivering a wide range of services and creating the material conditions for the spa guest stay. Treatments are ensured for the full enjoyment of the versatile needs of the spa guests, incl. providing conditions for their taken advantage of culture, entertainment, sports, etc. (CzechTourism, 2014). Therefore, the spa industry can be understood as an important asset for public health, but also as a large economic asset. According to international customs, the spa industry is economically included among the basic classifications of tourism. However, the spa industry is not clearly defined economically, and spa tourism is not a separate economic sector, but extends to almost all spheres of economic and social life of the public health. We cannot measure the benefits of the spa industry of public health, but surely the spa industry positively affects the gross domestic product, the creation of foreign currency resources, state revenues, spa towns and villages, business and investment activity, employment and contributes to the development of spa facilities and the region. Spa tourism is an important source of foreign exchange earnings. Average expenditure of foreign guests is around 100 USD per person per day. The highest spending tourists are from Russia, who, on average, spend around 130 USD per person per day.

The development of spa towns will attract more visitors (domestic as well as foreign), thus increasing traffic and economic benefits for both the spa facilities, as well as spa towns, regions and countries.

There are 37 registered spas in the Czech Republic. The most frequented spa facilities are Františkovy Lázně a.s., Lázně Luhačovice a.s., Léčebné lázně Mariánské Lázně a.s., Léčebné lázně Jáchymov a.s., Lázně Aurora s.r.o. a Lázně Teplice v Čechách a.s. Spa resorts are spread throughout the Czech Republic, but their concentration is significantly higher in the Karlovy Vary region, where there are almost half of all facilities (Tab. 1). Karlovy Vary is the world famous and unique spa region.


<table>
<thead>
<tr>
<th>Region</th>
<th>Number of beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Bohemian region</td>
<td>932</td>
</tr>
<tr>
<td>South Bohemian region</td>
<td>1,488</td>
</tr>
<tr>
<td>Pilsener region</td>
<td>404</td>
</tr>
<tr>
<td>Karlovy Vary region</td>
<td>13,090</td>
</tr>
<tr>
<td>Ústí region</td>
<td>1,083</td>
</tr>
<tr>
<td>Liberec region</td>
<td>689</td>
</tr>
<tr>
<td>Hradec Králové region</td>
<td>1,480</td>
</tr>
<tr>
<td>Pardubice region</td>
<td>576</td>
</tr>
<tr>
<td>South Moravian region</td>
<td>312</td>
</tr>
<tr>
<td>Olomouc region</td>
<td>2,433</td>
</tr>
<tr>
<td>Zlín region</td>
<td>2,167</td>
</tr>
<tr>
<td>Silesian Moravian region</td>
<td>1,851</td>
</tr>
</tbody>
</table>

Foreign guest were more affected by the economic crisis than the domestic guests (Kulhánek, 2015). The average length of the stays remained in the long-term downward trend since 2004. Trends in the number of guests in the spa hotels are now showing growing numbers for domestic and foreign guest attendance. The length of overnight stays is shortening for both groups. In 2013, the Czech Republic recorded about 90 providers of spa treatment rehabilitation care. These provided a total of 24,840 thousand beds. Within five years, there has been a decline in the number of beds in the Czech spa industry by 1665 beds.

The year 2013 was one of the worst in the history of Czech spas, in terms of some other performance indicators published by the Institute of Health Information and Statistics of the Czech Republic (ÚZIS). The total number of days of treatment was the lowest level since 1995. The stagnation occurred in 2011 and 2012. The decline in the value of the number of clients was not only by clients from abroad (Tab. 2). In the year 2013, Czech spa facilities received a total of
3776 thousand clients, of which foreign were 165623 (an increase of +4.2%). From the total amount of spa clients, foreign customers represented 43.9% of the total number of clients treated in Czech spas.

The annual increase in the number of treatment days to 10.3% (+1957 thousand treatment days) was recorded for foreign clients (Magconsulting, 2015d). For foreign guests, a 1.8% increase was recorded in overnight stays. Average time overnight stays in spa accommodation establishment is almost 3 times higher than the average number of overnight stays in other accommodation establishments in the country. The highest increase registered for region was in the Hradec Kralove region. Czech spa locations visit mostly non-residents from Germany and Russia. In 2012 (Magconsulting, 2015a), a significant increase was recorded in the number of guests from South Korea (by 95.8%, from 593 to 1161), Poland (52.8%, from 2500 to 3819), China (by 49.4% from 1487 to 2221) and Israel (34.5%, from 6923 to 9314).

With the acceptance of the list of indicators for spa treatment in 2012, the revenues decreased, and also employment and investment activities and development of spa locations stopped. Most of the Czech spa facilities started to focus on foreign guests because of the outage of the domestic clientele. German guest dominated spa tourism (length of stay was 7.4 days in 2013). The length of the Russian clientele stay shortened from 3 to 2 weeks. Russians clientele was partially replaced by clientele from Israel and Arab clientele. Foreigners are traditionally interested in the internationally renowned spas, with good transport links. The annual increase in the number of guests in spa accommodation establishments in 2013 was recorded by non-residents at 9.1%. Most of the foreign visitors in 2013 came again from Germany. The number of Russian tourists continues to rise. Both of the groups stay in public accommodation facilities. The most important fact which distinguishes spa guests from ordinary visitors is the length of stay. The average length of spa guests facilities in the Czech Republic is 16.9 days (12.9 days for foreigners and 19.1 days for domestic guest). The average length of stay in all other accommodation establishments in the Czech Republic in 2014 was 2.5 day (2.7 foreigners, 2.3 domestic). The annual increase in the average number of overnight stays is mainly a result of increasing tourists from Russia, whose average number of overnight stays traditionally is 5–6 nights.

The year 2014 brought a change for the better. Spa facilities reported a successful year. Its also expected that a further boost will take place after the adoption of the amendment to the Act on Public Health Insurance No. 48/1997 Coll., which also amended the list of indicators for spa treatment. The amendment introduced two major positive changes: the extension of the stay for some indications from 21 to 28 days and the possibility of repeated treatment, as a good assumption that domestic clients will return. Returning clients of health insurance companies will also be reflected in an increase in the average length of stay for clients, with provisions for better after-care and spa-year capacity usage.

Precursory economic results of the Czech spas for 2014 tripled compared to 2013, with higher yields, growth of domestic and foreign clientele. The spas managed to stop losses from 2012 and 2013 and to establish the Professional Medical Institute (Magconsulting, 2015b). In 2014, foreign guests represented 2/3 of public accommodation clientele. The number of foreigners increased by 3%. The trend analysis (Fig. 1) shows the increasing number of foreign guests in Czech spa facilities.

According to the Czech agency, the statistical numbers of overnight foreign guests stagnate and are influenced mainly by international political, economic and security developments. The question remains how the influx of foreign clients in the Czech spa will evolve in the future.

---

**Fig. 1.** Number of guests in the Czech spa accommodation facilities – trend analysis in the years 2001–2013 (after http://www.czechtourism.cz) • Liczba osób korzystających z zakwaterowania w uzdrowiskach w Czechach – analiza trendu w latach 2001–2013 (wg http://www.czechtourism.cz)
Benefits of the Russian clients for the Czech spa industry

Visitors from Russia, for more than 5 years, represent a very important asset for the Czech tourism industry. In 2012, more than 698 thousands Russian guests checked into public accommodation facilities all over the Czech Republic. This represents an annual increase in the number of Russian guests by 25%. The Russian Federation was in 2013 the fourth most important source of guests (number of guests in public accommodation facilities for 2013 was over 800 thousand, of which 591 thousand were Spa guests). Nowadays, Russia takes second place after Germany in the number of guests. From 2001 to 2012, the number of guests from Russia in public accommodation facilities of the Czech Republic grew at an average annual rate of 17.3%, and the total value and number of Russian guests in Czech public accommodation facilities increased over the last 12 years by 594 thousand guests.

The annual decline in the number of Russian guests in the public accommodation facilities in the Czech Republic was only in 2002 and 2009. The long-term problem with the issuing of visas in 2014 caused a decline of more than 140 thousand overnight stays in the comparable period of 2013. In 2014, 850 thousands of Russian guests checked in public accommodation facilities of the Czech Republic. Russian tourists in 2013 signed up for almost 3.5 million overnight stays, which was a 21% increase in the number of overnight stays in public accommodations, compared to 2011. From 2001 to 2012, the number of overnight guests from Russia grew by an average of 16.4%, and the absolute value of the number of overnight stays in the past 12 years increased by 2.9 million overnight stays (Fig. 2; Tab. 2).

Russian tourists in the Czech Republic traditionally account for the highest average number of overnight stays (from all source countries observed by the Czech Statistics Organization). This is for more than 10 years above the level of 5 nights, while the average number of overnight stays of other foreign guests in public accommodation facilities in the Czech Republic is around the 3 nights. On the other hand, we can see that the long term trend of Russian guest stay is decreasing. There are many reasons why the Czech Republic is so attractive for the Russian clientele, although there is always the visa requirement for Russians traveling to Europe (CzechTourism, 2014). In addition, many airline companies are strengthening their connecting flights between the Czech Republic and Russia. For the Russians, the Czech Republic is a cheaper destination than, for example Western Europe. In addition, the Czech Republic is culturally and linguistically closer than Western Europe. Russian tourists are mainly interested in the Czech Republic’s preserved historical and cultural monuments, Prague, Czech beer, cultural experiences, quality services for tourists and famous Czech spas. Young Russians head to the Czech Republic primarily for entertainment and shopping. The elderly choose Czech spa towns and explore the historic and cultural monuments. The most frequently used accommodation are three and four-star hotels. While Christmas in the Czech Republic is dominated by guests from Germany and other EU countries, on New Year’s Eve, mainly Russian tourists come to the Czech Republic (Magoconsulting, 2015c).

Russian tourists are among those who pay for some of the highest costs of accommodation in the Czech Republic. According to expert calculations, Russian tourists contributed to income from foreign tourism more than a quarter. Their share in the income from foreign tourism in the Czech Republic since 2009 continues to grow. According to expert calculations, in 2012 in hotels and similar establishments of the Czech Republic, 3.4 thousand workers were employed and nearly 19 thousand workers in the entire economy of tourism in the country, owing to the Russian tourists. It is assumed, that each one thousand of Russian tourists in the Czech Republic generates an average of 5 new jobs in hotels and similar establishments in the country and nearly 30 new jobs throughout the economy of tourism (Magoconsulting, 2015a).

One of the long-term problems involved in the growing decline of Russian tourists is connected to visa issues. Already in 2013, the Czech spa industry expected a decline in foreign patients from Russia by 20%. Issuing visas for multi repeated visits, where Czech Republic has the strictest rules across the EU was only 15% of the total volume of multi visas issued. In contrast, in Austria, this reaches 95%. This situation improves from 2014, and the ratio rose to 25%. After the devaluation of the ruble exchange rate and subsequent sanctions against Russia, we are seeing a sharp drop in tourists. The intention of the Ministry of Foreign Affairs to introduce from April 2015 for Russian tourists the VIS (Visa Information System), which introduces the obligation of biometric passports, will lower the issuance of visas. It is necessary to quickly solve problems with the visa policy of our country for tourists from the Russian Federation. Of great help, would be to issue short multiphase tourist visas for Russian citizens up to 5 years (with the possibility of stay up to 90 days out of every 180 days) without unnecessary restrictions (currently multiphase visas for a maximum of one year are being issued, provided that the applicant has in the past received at least 2 single short-term visas). The new Visa Code will clearly define the conditions for issuing visas (Stárek, 2014).

Consequences of the international visa policy for the Czech spa industry:

- Decrease of the spa clientele only in the West Bohemian spa is 35%.
- The length of stay for spa guests from Russia has been the highest at an average of 11.4 nights.
- During the long stay, Russian tourists spend an average of 2500 CZK per day, for one day stay about 1500 CZK.
- The total annual expenditure of around CZK 6.5 billion, with the estimated number of 500 thousand tourists per year.
- With the expected decline of 20%, a loss of CZK 2.5 billion for the state budget (every 100 CZK spent by a tourist gets on levies is 40.16 CZK for the public budget).

The Karlovy Vary region has a population of 300 thousand of population, of which 1/3 of all people of working age work directly in tourism.

The financial loss for the year in sales of business entities for Karlovy Vary is CZK 1.5 billion. The average daily loss to the public budget just from Karlovy Vary region is currently estimated at approximately 1674 million CZK.

In 2014, while keeping the visa policy, the Czech Republic was visited by 850 thousand Russian tourists, who made over 4 million overnight stays. This would generate 750 new jobs in hotels and similar accommodation establishments and 4.5 thousand new jobs throughout the economy of tourism. In the current situation, there is a large threat, especially in some regions. Fatal consequences for business and employment may evolve (Magoconsulting, 2015c). Many spas are a major employer in their wider regions. They are protected as natural medical resources. Therefore there is no industrial production. All of this could lead to depopulation and social problems, but also the end of the usage of unique natural medicinal resources that our country has.

**Discussion**

Under the influence of local trends and megatrends, some of the spa buildings are reconstructed, and the focus on self paying patients is the future. Many rely on important marketing promotional tools and new procedures to improve the services and spa infrastructure. Investments are directed towards improving the quality of services provided to the modernization of hotels and pensions, their equipment, staff qualifications, the introduction of innovations in the areas of treatment, extending the range of treatments, creating specialized programs and extending the benefits of discount cards (e.g. discounts available for orders of leisure activities – trips, cultural events, discounts at restaurants, pastry shops,
Development of the trends in Czech spas, with an accent on Russian spa clients

stores, etc.). The year 2015 should bring in Czech spas some stabilization, although the situation around foreign tourists will not be easy (Stárek, 2015). With the upcoming transition to the European system VIS, which envisages the introduction of biometric passports, it is important to take measures to ensure that introduction of VIS applicant will be perceived positively and will not endanger potential tourists. This will ensure the competitiveness of the Czech Republic with regards to other EU countries.

**Conclusion**

The Czech Republic has a great amount of natural medicinal resources that allow the creation of a broad network of diverse spa facilities. Spas in the Czech Republic have a long tradition, and have achieved recognition in European reputation in the past. Spa tourism is one of the most effective types of tourism, which is involved in the development of international tourism and offers income to the Czech Republic budget. The spa industry leads to region prosperity, increasing the prosperity of business entities as well.

The problem with issuing visas to Russian tourists is one of the long-term problems involved in the growing decline of Russian tourist visits. The government needs to carefully consider the sanctions and not go beyond the measures taken by other EU countries. It is important to establish transparent government objectives for the negotiations on the amendment of the Visa Code, with regard to the future of competitiveness of the Czech economy within the EU.

Development of the spa industry is the focus of municipalities and regions. In order to promote the development of this promising industry, the local authorities have adopted various support measures and development programs, aimed at encouraging the development of spa towns to attract more visitors (not only domestic but also foreign), to increase the economic benefits for both the spa facilities, as well as spa regions and the state.

**Acknowledgements**

This paper was supported by the project “Analysis of the Entrepreneurial Environment in Karvina region” at Silesian University, School of Business Administration in Karvina SGS 20/2014.

**References (Literatura)**


Špaček O., Žáčková, M., Veselík, Z., 2011. Analýza lázeňství v České republice. [online]. Available from: www.google.cz/webhp?sourceid=chrome-instant &ion=1&espv=2&ie=UTF8&q=KPMG%2C+Anal%25C3%8Dy+l%C3%A1ze%C5%88stv%C3%AD+v%2C+Anal%25C3%8Dy+l%C3%A1ze%C5%88stv%C3%AD+v%2C+Anal%25C3%8Dy+l%C3%A1ze%C5%88stv%C3%AD+v%2C+Anal%2B+studie%2C+6%2B+2011 [accessed: 04.06.2015].
