

# Spatial Planning Information for Business Development on Local Governments' and Regions' Web Pages

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**Abstract.** The author has reflected the role of the available and accessible spatial planning information, which is developed on the basis of spatial data infrastructure and using geographical information systems, for promotion of business development. The practical experience from the Czech Republic on displaying spatial planning information has been described. The questionnaire and interviews were analyzed and suggestions for further development of database of industrial territories and geoportals for strategic and spatial planning as well as for business development in Zemgale were done.

**Key words:** Geographic information systems, Information Communication Services (ICT), business, development.

## INTRODUCTION

Spatial planning can bring economic, social and environmental values. When properly administered, it is an important tool for promoting investment, development, environmental improvements and quality of life [1]. Sustainable regional business development relies on the competencies and strengths of a region in meeting the challenge of the global economical market and e-governance [2]. For the development of a new planning culture, incremental changes within the planning system instruments are introduced in the process of communication with different stakeholders.

The availability of information communication technologies and the associated issues of access to the information, the new ways of communicating and flexible information systems are all providing an impetus for changes in the way how public authorities work and the way in which they interact with different stakeholders and the business world. Knowledge of the society and e-planning has been identified as the key drivers for the change [2]. In terms of information technology for the future, Ziraks D. (2010) admitted that the role of the information technology (IT) in the decision-making capacity in the future would be critical.

The research is based on the survey, which was carried out in Zemgale Region within the framework of the European Social Fund project "Evaluation and Improvement of the Public Services for Business Development in Zemgale Region" (Contract No. 1DP/1.5.1.3.2/09/APIA/SIF/045/4).

The research hypothesis was set based on the previous recognitions – information accessibility, offered by public administrations based on information communication technologies, can influence business development substantially.

The research aim is to investigate the efficiency, accessibility and readability of the spatial planning documents displayed on the local governments web pages for promoting the business development.

The following tasks are stated to achieve the defined aim:

- to investigate and characterise theoretical aspects of the information communication technologies based on the spatial data infrastructures used for displaying the spatial planning information;
- to summarise data from the exchange of experience visit to the public authorities of the Czech Republic;
- to analyse the results of the survey on the information availability on web pages of the Zemgale region local governments;
- to define the strategy for the public e-services which support the business development.

The research covers the study of regulatory and information base – the special economical literature, the statistical data, the survey data and other materials have been used in order to deal with the defined tasks of the research. The monographic descriptive methods, the method of analysis and synthesis and the sociological research method – a survey have been used for the purpose of the study. The questionnaire targeted the customers who are searching for information on business development on web pages of the Zemgale planning region local governments. In accordance with the research results, the author presents conclusions and recommendations on spatial planning e-services for business development on local governments' webpages.

## RESULTS AND DISCUSSION

In the last centuries, the consideration of spatial planning has changed radically. Lewis Mumford (1934) was one of the earliest critiques of the modern metropolis at the height of the industrial age by scathing critique of how many recent technological advances ('mutations') threatened to destroy the precarious balance of the urban-rural ecosystem. Already in 1938 Mumford articulated his suggestions for reining in urban growth (sprawl) through regional planning [4].

Globalisation and sustainability are affecting spatial planning today; globalisation requires a new way of governing the city to take advantage of its benefits, while sustainability demands new attitudes toward the way of living as a whole. This double challenging context is imposing changes and structural reforms on the countries' administrative structures,

including the traditional planning model and implementation mechanisms, which were clearly unable to respond to the existing economic, social and environmental problems [5]. The researchers P.James, T. Fernando, A.Hamilton and S.Curwell stressed that planning is the innovative part of the decision-making process, as it aims at initiating, developing and analysing the possible courses of action. Development of policies, plans, projects or interventions are very important decisions for resource management and regional development [7].

Planning and extensive cooperation between cities in the form of city networks can ensure that the region's infrastructure and service functions are used more efficiently.

The changes in business development are forcing regions to redefine their role in meeting the challenges of increased globalization and international competition and to focus on their strengths. Based on analysis of a region's competencies and distinctive characteristics, planning can contribute to finding initiatives that can promote business development. Such analysis should determine the need for business sites, the designation of undeveloped land for business purposes and location requirements applicable to the specific type of business development in the region [6].

Planning requires proper tools, methods and procedures that integrate major processes in a planning support system. With integration of various ICT elements in spatial planning, there is a possibility of exploring new ways of working. Consequently, the demands made upon planning related ICT systems are ranging widely. In carrying out their functions staff rely upon word processing packages, databases and spreadsheets, GIS and the internet, and document management systems, in addition to standard planning applications packages [1].

There is a need to improve the knowledge base on the potential of ICT for regional development. Specifically, ICT applications with regard to e-planning (on-line planning and consultation) and communication of citizens views especially regarding the environment (the environmental impact of planned developments). This work needs to focus on understanding more fully how to communicate with the stakeholders. The planning process could provide information in a timely manner, in accessible ways and in ways, which communities can understand to encourage participation. By using ICT, it is possible to involve different stakeholders at different stages of the planning process. This method has its strengths and weaknesses, so their success depends on the way in which they are used. The choice of the technique should be determined by clarifying what the main reason or anticipated goal of the meeting is, as well as the number of stakeholders involved. Regardless of which technique is used, it is likely to place new demands on the education, training and support of spatial planners [8].

Donald M Grant (1999) pointed that experience in many countries has demonstrated that the effective record of rights and responsibilities to land has suffered grievously from a divorce between the legal and the technical aspects of land

records management. In addition, there is often a rift between its operations and effects as sought in legislation and the administrative offices of governments as realised in daily practice by landholders and stakeholders [9]. D.M. Grant also describes that spatial data infrastructures in the geomatics framework provide mechanisms for sharing georeferenced information. These mechanisms are conceptual, regional, political and economic. They seek out standards, attempt to rationalise technology, adopt access policies and create arrangements which cross-jurisdictional borders on a global, regional, national, jurisdictional and local level. They explore relationships within the public sector, between the public and private sector and between academia and industry. INSPIRE Directive has defined the explanation of Infrastructure for spatial planning, which means metadata, spatial data sets and spatia; data services. Network services are necessary for sharing spatial data between the various levels of public authority in the Community. Those network services should make it possible to discover, transform, view and download spatial data and to invoke spatial data and e-commerce services. The services of the network should work in accordance with commonly agreed specifications and minimum performance criteria in order to ensure the interoperability of the infrastructures established by the Member States. The network of services should also include the technical possibility to enable public authorities to make their spatial data sets and services available [10]. EU memberstates have reached different levels in efficiency, accessibility and readability of the spatial planning documents displayed on the local and regional governments' web pages, including introduction of geoportals.

#### DATA FROM THE EXCHANGE OF EXPERIENCE VISIT TO PUBLIC AUTHORITIES OF THE CZECH REPUBLIC

Within the framework of the European Social Fund project "Evaluation and Improvement of the Public Services for Business Development in Zemgale Region" 35 spatial planners from the Zemgale and Kurzeme planning regions visited Olomouc, Znojmo and Pilsen regions, in order to get acquainted with organization of spatial planning procedures and information for business promotion.

The City of Olomouc is situated in the eastern part of the Czech Republic, in central Moravia, as a centre of the Olomouc Region. With the population of approximately 100,000 inhabitants, it is the fifth largest city in the Czech Republic. The area of the city of Olomouc is about 100 km<sup>2</sup>, the municipality office administrative unit area is about 500 km<sup>2</sup>, with 150,000 residents (including Olomouc).

Spatial plans are available in paper and pdf formats, and during their elaboration process, the society, including entrepreneurs, is involved. For the description of the regions, the academic research is used and more than 119 indicators are analysed. Statistical data are collected for the 2-year period on the regional and local levels. There is a lot of data, which needed to be digitalized. The regional map is being prepared at the scale of 1:100000.

There are four main maps on the regional level:

- 1) Restrictions;
- 2) Natural and Cultural Heritage;
- 3) Development areas (e.g. transport corridors);
- 4) Comprehensive plan – problem identification and analysis.

Olomouc has more than 32 pages of maps. A particular attention is paid to the development sites in order to attract investment for business development. The municipality has set up a special economic department and provides training to attract foreign investors. Currently, foreign companies provide about 2,000 jobs and establish contacts with local businesses.

The goal of implementation of the Plan4all Project for the City of Olomouc is to publish relevant planning data and related metadata on the local level. Representing local content providers, Olomouc planners work directly on local planning documentation and solve problems with respect to neighbouring plans data. Using of standardized data of Land Use, Land cover, Utility and Government services are crucial. All metadata for spatial datasets, series and services are managed by the LemonTree-Metadata (LT-M) solution. For data management, which includes uploading, downloading and updating and publishing data, is used Gehosting – DataMan and MapMan applications [11].

Until 2004, the spatial planning information in Znojmo authority was only on paper. In 2005, 50% funding was received from the region and they acquired the necessary equipment and information to work with the data: first, the entire maps and drawings were scanned and then the transformation of geographical coordinates was implemented. All documents in the publication are now available on the Internet. Now the home page provides information on amendments to the planning processes and completion of the public hearings. Developing such a program and society involvement in the public discussions was first introduced in the Czech Republic. The geoportal of Znojmo was created during the last year and the geospatial information covers a wide range of datasets and thematic layers necessary for the business development [12].

The Pilsen region's administration, with the Regional Development Department of 20 employees, including spatial planning unit with 6 specialists, prepares the methodology for spatial planning of local authorities and monitors local development plans. GIS Department consists of four people who maintain a system for the region. Planning a data system is the data on historical events, places and related people, useful information for tourism, which is used for planning travel routes. Route and transport system planning is a useful information about the terrain changes. The planning task was selection of a new ambulance station site and the task of guaranteeing a medical contact in 15 minutes.

Planners work with 156 different indicators and provide builders with information (communication, protected territories). Now the work on trying to establish a common methodology for creating the spatial maps has been started. For entrepreneur's informational e-services are very important

It enable businesses to obtain information online in good quality, These information is a simple and user-friendly cartographic material in the Internet, when use it to see their property, restrictions, communications etc. [13].

#### RESULTS OF THE SURVEY ON THE PUBLIC SERVICES AVAILABILITY

The survey was conducted in order to investigate what kind of information customers, including entrepreneurs, are searching on the web pages of the Zemgale planning region local governments. The research object was e-services, including spatial planning documents, provided by local governments of Zemgale Region. The questionnaire was organized in order to achieve the research aim. The web based questionnaire (Google Doc) was developed in November - December 2010. The link of the created questionnaire was sent directly to representatives of local governments and entrepreneurs.

The responses cover all 22 counties and 2 cities of Zemgale Region, as well as several local governments from Kurzeme Region, as the cooperation partner of the project, 221 responses have been received in total: Aizkraukle county - 3%, Akniste county - 4%, Auce county -5%, Bauska county - 6%, Dobeles county - 5%, Iecava county - 4%, Jaunjelgava county - 3%, Jelgava county - 4%, Jelgava city - 10%, Jekabpils county - 3%, Jekabpils city - 3%, Krustpils county - 3%, Koknese county - 3%, Nereta county - 3%, Ozolnieki county - 2%, Plavini county - 3%, Rundale county - 4%, Sala county - 3%, Skriveri county - 3%, Tervete county - 4%, Vecumnieki county -5%, Viesite county - 3%, other counties - 5%. The requirements of the project defined that at least two entrepreneurs, two residents and one representative of each local government of Zemgale should complete the questionnaire.

The survey has covered different occupation groups from the local communities. Students - 6%, job seekers - 5%, local government employees - 43%, entrepreneurs – 30%, private sector employees - 4%, others - 3%.

*What is your Internet access availability?* 87% of the respondents answered that they have a permanent connection at home, 10% use public internet access points, 57% have a permanent connection at their work place, 5% answered that it is possible to use internet at one of the institutions / companies, other possibilities – 2%. The results show that the Internet access is available in the Zemgale region local governments' territory and shows a variety of possibilities for its availability.

*Have you visited your local governments' website?* The respondents answers show that: 46% visited frequently, 44% visited rarely and 10% did not visit. The results show that more than a half of the respondents rarely visit the web pages and the interest should be raised in order to search for information there (see Fig.1).

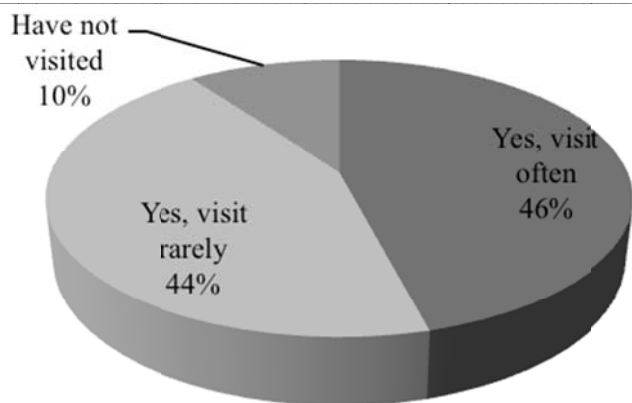


Fig. 1. Visits to the local governments' websites. Source: made by the author according to the survey data.

*How important, do you think, is it for the entrepreneur to see information on the available facilities, premises and industrial areas on the website?* There is no need for such information - 2%, little need - 3%, neutral - 16%, essential - 25%, very essential - 59%. Information on the available facilities, premises and industrial areas is the one that could be displayed on the webpages.

*How important, do you think, is it for the entrepreneur to see information on the issued permits, licenses and building permits at the local governments' webpages?* There is no need for such information - 1%; little need - 2%, neutral - 22%, essential - 28%, very essential - 47%. The results from the respondents show that the information is essential and very essential; however, it is not so essential as procurements or different funding possibilities, or business support structures (see Fig.2).

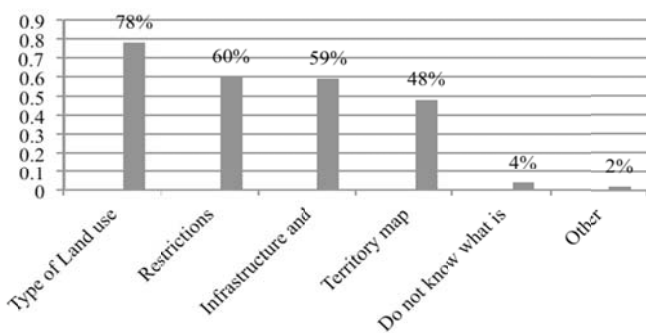


Fig. 2. Essential information on spatial plans. Source: made by the author according to the survey data

*Please take a look at Zemgale geoportal (<http://gisdb.zpr.gov.lv/gis>). Do you see an opportunity, as an entrepreneur, to use the information?*

- Yes, the entrepreneur is able to obtain information about the industrial territories - 36%
- Yes, the entrepreneur is interested to submit information on his/her company - 20%
- Yes, the entrepreneur can use the available information on the land use and procedures - 34%
- No, the entrepreneurs do not see the possible usage - 4%

- No, the geoportal is hard to use – 5%
- Hard to say - 30%
- Other - 3%

The responses have shown that there is lack of information and benefits of the geo-portal, as well as information on using it.

Some responses from the interviews: “So far, I am not familiar with the site. Be sure – I will look with the idea to use the contained geo-information in my business development. Yes, there is an opportunity. I can seek for information on a building area, a cadastral plot. Additional training is needed for using it. Useful information on the engineering infrastructure, land use...”

## CONSLUSIONS

Planning should consider a variety of complex social, ecological, economic and cultural processes, and this requires proper tools, methods and procedures that integrate major processes in a planning support system.

With the integration of various ICT elements, comes the possibility of exploring new ways of working.

A geographic information system (GIS) integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information.

GIS allows us to view, understand, question, interpret, and visualize data in many ways that reveal relationships, patterns, and trends in the form of maps, globes, reports, and charts.

The good practice examples on displaying spatial planning information have been introduced by local authorities from the Czech Republic.

The main conclusions from the survey and the interviews with entrepreneurs are:

- The information displayed by the local governments is inconvenient and unfriendly for usage.
- A personal visit to the local authority still plays an important role. However, it is a time consuming process.
- There is lack of information about the Zemgale geoportal and the industrial territory database.
- The most significant information to be displayed is the land use (existing and planned), restrictions, infrastructure and communications, the territory map, free industrial territories.

Local authorities can introduce user friendly spatial data infrastructure tools for displaying spatial planning information which could provide the geo spatial information, ensure transactions and participation.

The information about benefits of the Zemgale geo-portal should be widely spread. Further development of the geo-portal is required in order to simplify its usage, update it with the data and metadata for different thematic layers. The applications for analysis of the statistical information could be introduced.

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#### Inga Bērziņa. Telpiskās plānošanas informācija biznesa attīstībai vietējo pašvaldību un reģionu internetmājas lapās

Darbības programmā „Cilvēkresursi un nodarbinātība” norādīts, ka administratīvo slogu un izmaksas publiskajai pārvaldei, iedzīvotājiem un uzņēmējiem var būtiski samazināt efektīvi izmantojot IKT, ieviešot e-pārvaldi, kā arī modernizējot publiskās pārvaldes pakalpojumus, nodrošinot to labāku pieejamību un pielietojot uz klientiem orientētu pieeju. Saskaņā ar dažādiem pētījumiem, galvenie šķēršļi publisko pakalpojumu pieejamībai ir informācijas trūkums.

Autore atspoguļo teritorijas plānošanas informācijas pieejamības iespējas un nozīmi, kas izstrādāta, pamatojoties uz telpisko datu infrastruktūru un izmantojot ģeogrāfiskās informācijas sistēmas. Darbā aprakstīta Čehijas Republikas praktiskā pieredze teritorijas plānošanas informācijas atspoguļošanā pašvaldību mājas lapās.

Pētījuma ietvaros veikta aptauja, kuras mērķis bija izpētīt stratēģiskās un telpiskās plānošanas instrumentu pieejamību un uztveramību, kā arī informācijas uztveramību un pieejamību vietējo pašvaldību mājas lapas uzņēmējdarbības aktivitātes veicināšanai. Būtiski bija arī saņemt vērtējumu no sabiedrības, uzņēmējiem un pašvaldībām par Zemgales ģeoportāla un industriālo teritoriju datu bāzes izmantošanas iespējām un iespējamajiem uzlabojumiem un papildinājumiem nākotnē, lai nodrošinātu pilnvērtīgāku plānošanas dokumentu, industriālo teritoriju datu bāzes darbību un pakalpojumu nodrošinājumu.

Veiktā pētījuma ietvaros Zemgalē analizēti rezultāti un izstrādāti ierosinājumi vietējo pašvaldību mājas lapu pilnveidošanai, kā arī industriālo teritoriju datubāzes un ģeoportāla uzlabošanai, lai nodrošinātu efektīvu un atbilstošu stratēģiskās un telpiskās plānošanas pakalpojumu pieejamību, tādējādi, veicinot uzņēmējdarbības attīstību Zemgalē.

#### Inga Берзиня. Информация пространственного планирования для развития бизнеса на местных интернет-порталах самоуправлений и регионов

В оперативной программе «Человеческие ресурсы и занятость» отмечено, что административное время и расходы правительства могут быть значительно снижены, эффективно используя инновационные технологии, электронное управление, а также модернизируя государственные услуги путем предоставления более широкого доступа к ним и используя клиенто-ориентированный подход. По данным различных исследований, основными препятствиями для получения государственных услуг является отсутствие информации об услугах.

Автор отражает важность и возможность доступа к пространственной информации, которая разработана на базе инфраструктуры пространственных данных при использовании географических информационных систем. Работа описывает практический опыт Чехии в отражении и использовании пространственной информации на местных правительственных интернет сайтах.

В рамках исследования проведен опрос, цель которого анализ доступности и удобства восприятия инструментов стратегического и пространственного планирования и информации на интернет страницах местных самоуправлений для поддержки развития бизнеса.

Важно было получить оценку общества, самоуправлений и предпринимателей о возможностях использования геопортала Земгале и базы данных промышленных территорий, а так же о возможных улучшениях и дополнениях в будущем, для обеспечения более качественных услуг и работы с базой данных и другими документами пространственного планирования.

В рамках исследования в Земгале, проанализированы результаты и разработаны предложения по улучшению интернет страниц местных самоуправлений, баз данных и Геопортала, с целью обеспечения эффективной и надлежащей доступности услуг стратегического и пространственного планирования, способствуя тем самым развитию бизнеса в Земгале.