**TIROLS: LOCAL WEB-BASED NETWORKS CENTRED ON SELF-GOVERNMENTAL WEBSITES VS. LOCAL ACTIVITY – A PROJECT OUTLINE**¹

JAN W. OWSIŃSKI  
ANETA M. PIELAK  
KRZYSZTOF SEP  
Systems Research Institute, Polish Academy of Sciences  
RAFAŁ PONICHTERA  
Warsaw School of Information Technology

**Summary**

The paper presents an outline for the project, entitled TIROLS, dealing with the analysis of the local networks, based on links and connections related to the local authority websites at the level of municipalities. The project has been recently started, and the empirical work is in the initial stages. The aim is to gather sufficient data on the networks in question, to assess the essential properties of these networks, and to juxtapose them with the data on socio-economic development level of the respective municipalities. Thereby, important hypotheses concerning the relation of such local networks to local socio-economic development would be formulated and verified.

The paper provides the prerequisites to the project, including previous work of the team of authors, the initial empirical results and the conclusions from these initial results, as well as methodological and substantive perspectives of the work to do.

**Keywords:** Internet, websites, local administration, local networks, socio-economic development, social networks.

1. **Introduction: the background**

The research project TIROLS, being the subject of the present paper, brings together several streams of thought and perspectives, which relate to the areas of (i) the ICT as represented by the world wide web, the internet, and specifically the websites, focusing on the websites of local (self-govemmental) administration, (ii) the local networks, perceived similarly to social networks, and the potential link to (iii) the level and dynamics of the local socio-economic development.

Within these three areas specific methodologies and aspects are referred to – and in view of the width of the entire domain of the paper, as well as the initial stage of work on the project described, we shall refer here only to, first, the general theoretical and methodological prerequisites of the project, and then to some selected issues, essential for the work already done and envisaged.

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TIROLS shall try to assess the span, density and “topological” character of local networks, formed by the links realised through the web, starting with the website of the local administration (in Poland: self-governmental administration of municipalities, LAU2 = NUTS5 in the EU nomenclature). Assessment of these local networks is then juxtaposed with the data on local socio-economic development in order to check whether there is a connection, and if so – what is its nature. The results are expected to bring to light not only the interdependencies of local reach, but, supposedly, given a relatively representative character of the units investigated, of a broader significance. These results should add to cognition and practical assessment of the junction between ICT on a local scale, web-based networking and socio-economic development. It is also hoped that policy-oriented recommendations could be formulated on the basis of these results.

2. The rationale – a narrative

2.1. The component elements

As mentioned at the outset, there are several component elements of the thought background and methodology that ought to be referred to when explaining the rationale of the project. They are schematically presented in Fig. 1 below, and then commented upon from our perspective.

Fig. 1. Schematic presentation of the component elements behind the rationale of the project

2.2. Information Society? Knowledge Economy?

The slogans of “information society” and “knowledge economy” became so popular that hardly any thought goes now any more into their actual meaning. Definitely, if information is a property of a message related to its unexpectedness and usefulness (much in line with information theory of Shannon and Weaver), and knowledge is a verified set of rules (models, theories,...) that can be applied to make decisions and drive choices, then an additional effort would be required to prove that we live in an information society and our economies are based on knowledge to a higher extent than at any time before (despite the deep conviction of the “flood of information”).
What proportion of messages that we constantly receive via various media go over the threshold of unexpectedness & usefulness? Do we really dispose of better rules of deciding and choosing (also among the messages…) in business, government, science, and life at large, than before?

Several hundred years ago a free European peasant, even if illiterate, had to memorise and effectively use in a flexible manner, depending upon weather, previous year conditions, time budget available and other activities, well over one hundred technological processes of wide diversity, ranging from flax processing, through preparation of manure-based fertilisers, to house building. Women had, perhaps, to master an even broader scope of technologies, including (besides child bearing and rearing, and also fieldwork and animal husbandry) all those related to clothes making and repairing, as well as food processing. This practical knowledge was much beyond what nowadays an average high school graduate in modern civilisation hears about and can practically grasp.

Yet, there is another deep qualitative difference, which can be expressed through two notions: change and speed. Knowledge tends nowadays to be superficial just because of these two characteristics. Actually, the aim tends to be learning to learn. In older times, a lot had to be learned, which, however, stayed valid for the lifetime. Now, it is lifelong learning that becomes a must, while at the same time the technical possibility of realising it relatively easily has appeared.

It is also this speed and change that impose the need of managing knowledge in a dynamic setting, knowledge, which otherwise was just a steady resource that one had or not. Knowledge has to be managed if it is to be gained and used effectively by the “information society” in the “knowledge-based economy”. This is the gist of considerations of various aspects of the “new civilisation”, and the precepts thereof, coming from, to call upon just a sample, such publications as [14], [15], [9], [22], [31], [58], [61], [65], [68], [71], [76], or [79].

So, the visions of McLuhan, [41], and the Tofflers, [72], [73], came true through the flood of messages and the onset of the new media, constitutive elements of a new civilisation, however we call it, [77]. This global media civilisation appears, though, to create a new barrier to both equitable and effective development, the digital divide (see, e.g., [12], but also [5], [16], [33], [36], [69], or [77]), implying the existence of those left out from the development processes in both active (creative participation) and passive sense (acquiring added value or even being perceived at all).

2.3. The new civilisation and (rural) space

The promise of the “information society” has been particularly attractive for rural areas, and especially for the marginal and peripheral ones. The new media and infrastructures, starting with the “prehistory” of radio, telephone and TV, followed by the web and new communication devices, were supposed to overcome the friction of space, at a much lower cost (both socially and in market terms) than borne by providing for physical mobility. This concerned, essentially:

- distance learning, that would allow for catching up in educational level with the urban areas,
- distance work, allowing for moving of jobs (far) out into the countryside, even to the periphery (see, e.g. [67], on this and the preceding aspect),
- e-administration, facilitating administrative functions, especially in thinly populated areas,
- marketing to the end customers – not only rural tourism and leisure (e.g. [79]), but also health food and regional products, as well as anything else that countryside can offer,
business-to-business marketing and networking, allowing for effective cooperation across farther distances than otherwise, also within broader business communities.

The spatial friction was partly overcome, but the promise was not truly fulfilled. A part of the blame went to the digital divide, but it was also “discovered” that there are things that happen uniquely, or sufficiently effectively, through direct interpersonal contact, [25]. Some friction also persists in terms of cost considerations, [7], motivation, skill, and other differentiating factors.

Soon, it was noted that whatever the ultimate impact of the new infrastructures and their actual take-up, i.e. effective use, the presence and quality of these infrastructures follows the well known spatial pattern of wealth and development. Thus, rural space appeared to enjoy more of and better take up of the ICT technologies in the more developed and wealthier countries and regions, with special emphasis on suburban, peri-urban and urbanising areas, even if formally rural.

Convincing evidence has been collected that there exists a positive feedback, realised through the functions listed above: general socio-economic development → ICT penetration and uptake → general socio-economic development, with the respective multiplier effect depending upon the starting point (for a discussion on relation between ICT and development, see [18], [19], [24], [30], [32], [37]). Hence, additional stimulus appeared to be necessary to set the positive feedback in real motion, wherever the original setting had not provided for it. This is the basis for numerous efforts at, e.g., the European level, aiming, in particular, at “broadband for everyone”, meaning countries, regions, as well as local differentiation (see, e.g. [29], [16], [17], [11]), although it is obvious that the gist of the matter is in use, and availability is just a necessary condition.

2.4. The local authorities and their websites – role, functionality and quality

With the above in mind, in the development of “information society” emphasis was put on provision of functionality and information on the web by the public bodies. This concerns, first, the e-administration and e-government functionality, meant to serve the public purpose – the citizens at large, institutions and businesses. Many programs have been put in motion in this domain, aimed at establishment, development and improvement of the public body websites and web services, including introduction of respective legal stipulations ([8], [59]). Monitoring and quality evaluation surveys were launched on national and international scales, [6], [42], [70], as well.

For the majority of European countries this development stage is still underway. Although some countries reached the level at which most of the functions that could “in principle” be realised on the web actually are, but even there a lot remains to be done. The instances are related to electronic signature and its substitutes, functionalities for the handicapped and the security issues.

It seems obvious that the role and significance of local authority websites are far more pronounced in rural, especially deeply rural, marginal and peripheral areas than in towns. This applies equally to the external and to the internal functionality of the websites, that is – as perceived from the outside and the inside of the area. The cause is both in relative scarcity of other (web) nodes providing similar service (obvious for administrative functions, but less so for the other ones) and in relative scarcity of easily recognisable signposts of the area that could be a facile hit for the outsiders (the presence of such foci, usually tourist attractions or industrial developments, being a major step away from deep rurality, or even rurality at all), see also [34] for the role of networks.
As it is assumed that in rural areas local authority websites play a special role, higher requirements on the expected quality and functionality of these websites are put, while, at the same time, given the otherwise expected lower level of skills and resources available, there may be definite difficulties in satisfying the requirements mentioned (for some empirical studies and more in-depth analyses, see, e.g., [2], [20], [54], [56], [57], [66], [74]). This opposition is coupled with the issue of the (functional) level and magnitude of the respective administrative units, the latter expressed primarily in terms of population numbers. In conditions of rural communities the role of local authority websites becomes particularly important for the establishment and strengthening of attachment, feeling of identity, networking and the like imponderables, essential for the proper functioning and the development of the community as a whole.

2.5. Local networks, other factors and socio-economic development

Existence and effectiveness of networks has been seen as an important factor in local development since long. The examples quoted referred primarily to small-scale (family) businesses in rural areas of Italy after the World War II. Importance of networks as a factor was noted particularly for exactly the rural areas, where the action of agglomeration factors is nonexistent, and networks, to some extent, substitute for it. There is, however, yet another dimension to the existence and effective functioning of networks, especially the informal ones. It is, namely, a sign of a definite degree of trust, which is considered to be the crucial component of the social capital, necessary for sustainable local development. Thus, networks appear to be one of fundamental factors in local socio-economic development, while the local authority, and the websites of this authority may play an important role in creating, maintaining and strengthening such networks.

It should be noted that we speak here not of any kind of networks that may exist in the “cyberspace”. Many of such networks established through social portals have little bearing on the capacity and facilitation of the socio-economic development. We primarily mean the networks offering: (a) useful information (service), (b) business opportunity. Thus, even if we might speak of the “old-boys-networks”, it is in the context of their actual use for practical purposes. TIROLS concentrates on networks traced through the web-based links and references open to the public. The study is oriented at the references (active links, web addresses, e-mails, etc.) offered through the websites, starting with the local authority website.

Regarding the connection between local networks and local development, the study shall also account for other factors of development, and their synergy, or interrelations, with the networks and the associated aspects, including, especially, trust and cooperation. We should also add that we believe that there are both correlation and synergy between certain development factors, and, which is very much to the point here, they are, in particular, the ones linked with networking, on the one hand, and knowledge and education on the other. A broader hypothesis would imply a cultural connection, involving trust, networking, education and knowledge (see [10], [24], [67]).

Let us note here that we are not suggesting that networking and connectivity are absolute safeguards in the sense that their growth must lead to better and safer development. A very careful hypothesis would be that there is an optimum, both in terms of quantity and the nature of structure, beyond which additional risk may arise (see the recent financial crisis, e.g., [4]).
2.6. Social networks and their analysis

In recent years there has been a very high interest in the study of social networks. This interest arose, on the one hand, from some new paradigms in the domains that hitherto referred to different types of analysis, relying to a higher extent on formal relations and structures, especially in management and organisation sciences. Analysis of the actual social networks in an organisation and at the workplace was to uncover the true processes and to direct the efforts towards more effective and efficient solutions. On the other hand, such studies were made possible (or at least facilitated) by the new technological developments in the domain of telecommunications and the web.

The studies of social networks try to establish their essential features, including the nature of structures, the focal points and their character, and the substructures (relatively or absolutely separated subnetworks). Specific notions and measures were developed for the study of social networks, originating from computer science and graph theory. Identification of the characteristics of the networks analysed implies definite characteristics of the counterpart organisations, communities, or other human systems, and, so, also the respective remedies, if needed, see, e.g., [60], [62].

A comment apart is due on the use of webometrics (see, e.g., [21]) in analysis and assessment of social networks. These methods, based on direct information from the web may, namely, also serve to characterise the respective structures, emerging from such data. TIROLS shall not directly use methods of webometrics, although some experience from this domain shall be referred to.

3. Methodology

In the study undertaken a sequence of stages are envisaged, forming an open-ended methodology, composed of a set of technical blocks, to be used according to need and possibility. Before presenting these stages, we shall comment shortly on the pragmatic prerequisites of the study.

3.1. The pragmatic prerequisites of the methodology

The object of study. The study is carried out for the municipalities (“gminas”), the lowest administrative level in Poland (NUTS5 = LAU2 in EU nomenclature), of self-governmental character. Communes form counties (“poviats”, NUTS4 = LAU1), of which there are some 350, and which are also of self-governmental character. At the third level there are 16 provinces (NUTS2), which are of mixed administrative-self-governmental character. There are some 2,500 communes in Poland, roughly 1,600 of them, formally, rural. The population in a vast majority of rural communes ranges between 5,000 and 10,000. These units are composed of a couple of villages, with a bigger one, or a very small town, being the seat of the commune. Population density ranges from less than 20 persons per square kilometre up to more than 400, but most feature densities between 30 and 100. With such dimensions, we can speak of local communities, which, on the one hand, feature a certain whole of functions of administrative and social character, and, on the other, allow for relatively good cognition of the area, main activities, businesses, organisations, and individuals across the commune. Hence, formation of effective (cooperation) networks is also possible.

The ICT aspect. We start with the websites of the communal authorities. The team has been involved in the study of communal and county websites since 2003 ([54], [56], [57]). So,
significant experience has been gathered in the domain of measuring the functionality and quality of the local authority websites. Within TIROLS, though, we will be looking more into the links, provided via these websites, to the local businesses, institutions, organisations etc. We shall also take a look at the websites (if any) of these entities that are referred to on the local authority websites. Therye at least some basic features of the thus formed networks would be identified. Note that we do not mean such measures commonly used in webometrics, as the number of visits, clicks time spent, etc., but, instead, the information provided, its correctness, amleness, and reciprocity.

The sample, the dimensionality and the effort. In view of purely technical obstacles, the empirical work cannot be done by automatic means (agents, crawlers), but has to be done “by hand”. This means quite an effort on the side of the team. Let us only note that in a previous study of web-provided information on the area as many as 70 binary criteria (attributes) were assessed per website, which, given that some 25-30 units were assessed, results in some 2,000 scoring decisions to be made, while the work has to be done within a specified time frame (e.g. within a week) in order to preserve comparability between websites.

It is envisaged that the minimum number of communes actually analysed would be in the teens, the maximum not exceeding 30-40 communes. This depends upon the results from the first stages of work, when first local networks of the kind studied shall be empirically assessed. It can namely be assumed that a single communal website would provide information on 20-40 other bodies within the area, and hence so many websites of these other bodies would have to be assessed. For just 15 communes this amounts to thoroughly checking “by hand” some 500 websites.

The minimum number envisaged results from the consideration of the requisite variety within the sample, from two points of view: (1) leading functions of the commune (farming [possibly forestry], residential & service, urban [within the suburban areas], leisure & tourism, industry, peripheral [i.e. “no distinct economic function”]); (2) diversity of the economic situations (as expressed through a small number of indicators, such as value of personal income tax per capita, number of businesses per capita, etc.). It is assumed roughly that it would suffice to account for 5x3=15 respective communal situations in order to have the sample fully representative.

The communes in the sample are all from the capital province of Poland, Masovia. This choice may seem biased in view of a special position of the capital province (e.g. the highest GDP per capita among the Polish provinces), but is sufficiently justified, see Table 1 below.

Table 1. Some characteristics of Masovia against the Polish background

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Poland: average (min and max across all 16 provinces)</th>
<th>Province of Masovia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population density (persons per sq.km)</td>
<td>122.3 (min: 59.0; max: 384.6)</td>
<td>144.0</td>
</tr>
<tr>
<td>Urban population share (%)</td>
<td>61.8 (min: 40.5, max: 79.1)</td>
<td>64.6</td>
</tr>
<tr>
<td>Share of agricultural land (%)</td>
<td>58.7 (min: 49.7, max: 69.8)</td>
<td>69.8</td>
</tr>
<tr>
<td>Share of forested land (%)</td>
<td>28.5 (min: 20.9, max: 49.7)</td>
<td>22.3</td>
</tr>
<tr>
<td>Protected areas of high natural value (%)</td>
<td>33.1 (min: 16.4, max: 62.0)</td>
<td>30.1</td>
</tr>
<tr>
<td>Population served by wastewater treatment (%)</td>
<td>57.1 (min: 44.6, max: 75.8)</td>
<td>45.1</td>
</tr>
<tr>
<td>Unemployment rate (%)</td>
<td>18.1 (min: 13.9, max: 28.8)</td>
<td>13.9</td>
</tr>
<tr>
<td>Wages and salaries (Polish average=100)</td>
<td>100 (min: 83.7, max: 129.2)</td>
<td>129.2</td>
</tr>
</tbody>
</table>

Thus, of all counts, shown in Table 1, it is only for the one of “wages & salaries” that Masovia takes a clear “urban” lead, and, just like in the case of GDP per capita – uniquely owing to the presence of the capital city of Warsaw. Otherwise, Masovia represents a good image for rural Poland, with, in addition, high diversity among its commune level units (especially along the axis from the metropolitan area towards the peripheral, deeply rural areas). All this justifies the choice of the province of Masovia for selecting the communes to be included in the study.

3.2. Envisaged methodological steps of the project

The list below specifies the sequence of the planned steps within the project, especially regarding the methodology adopted, with short comments, pertaining also to the current state of work:

1. Definition of the initial set of communes for further selection (30 rural communes from the province of Masovia have been specified, based on socio-economic data and functionality of these communes, including differentiation of their location with respect to urban areas).
2. Preliminary check of the websites of the initial set of communes (30) with respect to their quality, and, in particular, the links and references to the local institutions and organisations; a short report from this empirical work is provided in Section 4.
3. Based on the results of Step 2 and analysis of socio-economic data a thorough check on the links and references for the 2-tier system is being now carried out for a limited subset of communes from the initial set (6-9 communes); this is equivalent to gathering data for the initial sample of communes for the Levels 1 and 2 of Fig. 2 further on.
4. On the basis of results from Step 3 the technical details of the proper empirical study will be prepared (depth and precision of information gathered), including the envisaged final number of communes considered.
5. Main body of empirical data will be gathered according to methodology adopted in Step 4. So, the entire set of data gathered shall span the sample websites of the Level 1 and all those indicated by the websites from Level 1, located in Level 2 of Fig. 1, with objects from Levels 0 and 3 not studied, but just mentioned, as referred to by websites from Levels 1 and 2.
6. These data shall be analysed with selected group of techniques, shortly commented upon in Section 3.3.
7. The analysis shall be extended to the relation between the characteristics of the networks, as resulting from Step 6, and the general socio-economic data for the communes, with the aim of establishing whether there is an association, or not, and if so, what is its nature. Special attention shall be paid to the differentiation of the functional and spatial characteristics of the communes, and to the “activity & wealth” indicators.
8. The results of the study shall take the form of a comprehensive report, but also a database and an executive summary, provided to the organisations and agencies, responsible for respective policies and programmes.

3.3. Techniques of network analysis

In analysing the web-based networks, a set of formal tools shall be used, originating from several domains. First, simple indicators of the network magnitude, density, and connectivity, shall
be calculated for each of them. Distinction shall be made of inward and outward connection characteristics. Even though the networks analysed are by definition centred on the commune authority websites, some of the notions from social network analysis shall be used, as well.

The characteristics of the networks shall be assessed via the graph theoretic methods, with orientation towards connectivity, existence of substructures, cliques etc., [38], [39], [40]. Since the strength of links shall also be assessed, the techniques of cluster analysis shall be applied at two levels: for individual communes to assess the potential existence of more than one cluster in the respective networks, and for the entire sample of communes, in order to identify the potential clusters of similar communal networks. The techniques to be applied are largely the ones developed by the team ([45-50]). It is intended to apply novel techniques, related to asymmetric similarities and distances to the networks obtained, see [53].

**Fig. 2. Schematic view of the scope of study. Level 1 and 2 websites will be thoroughly studied, while those of Levels 0 and 3 just listed. Arrow style shows nature/strength of links/references**

Clustering of networks shall be associated with the search for the different models of relations between networks and socio-economic development levels and dynamics. For this purpose the clusterwise regression methods shall be applied, derived from various backgrounds, [1], [13], [27], [35], [43], [44], [49], [64]. Identification of such models is among the primary goals of TIROLS.

4. Results of the preliminary investigations

4.1. A summary of results

After the initial sample was defined, the websites of the communes from it were investigated, primarily as to the links they provide to other local entities. Attention was focused on services of local character, largely remaining (or supposed to be so) in connection with local authority, due to their public mission. A simple scoring system was applied, whose results are summarised in Table 2, in terms of overall scores for the websites, ordered in the table according to decreasing scores.
The scores reflect the volume and the quality of information, provided by the respective websites, regarding other local entities, in terms of “connections” – links, e-mail addresses, locations, telephone numbers etc. The existence of negative scores results from the inclusion in the scoring system of lack of or mistaken information. The information compiled for each website concerns more than 20 categories of local entities, related to different spheres of local service, social infrastructure and other types of activity. For each category scores reflect various kinds of potential connection-related information (its presence or absence, and correctness), altogether some 10 positions per category. Thus, we deal, for the whole sample, with quite an ample set of data, resulting from this initial stage of work on the project (altogether a table with roughly 7,000 entries).

Table 2. Summary scores of commune websites for information on other entities (November 2009)

<table>
<thead>
<tr>
<th>Commune</th>
<th>Score</th>
<th>Commune</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jabłonna</td>
<td>53</td>
<td>Nowe Miasto</td>
<td>11</td>
</tr>
<tr>
<td>Niepodęg</td>
<td>50</td>
<td>Sanniki</td>
<td>10</td>
</tr>
<tr>
<td>Nadarzyn</td>
<td>49</td>
<td>Raszyn</td>
<td>8</td>
</tr>
<tr>
<td>Łochów</td>
<td>44</td>
<td>Leoncin</td>
<td>7</td>
</tr>
<tr>
<td>Żabia Wola</td>
<td>44</td>
<td>Grudusk</td>
<td>4</td>
</tr>
<tr>
<td>Karczew</td>
<td>40</td>
<td>Stara Biała</td>
<td>4</td>
</tr>
<tr>
<td>Lesznówola</td>
<td>35</td>
<td>Jedlnia Letnisko</td>
<td>0</td>
</tr>
<tr>
<td>Belsk Duży</td>
<td>28</td>
<td>Przyłęk</td>
<td>-4</td>
</tr>
<tr>
<td>Korczew</td>
<td>24</td>
<td>Rzekuń</td>
<td>-5</td>
</tr>
<tr>
<td>Klęmbów</td>
<td>23</td>
<td>Zakrzew</td>
<td>-7</td>
</tr>
<tr>
<td>Kłów</td>
<td>22</td>
<td>Rościszewo</td>
<td>-8</td>
</tr>
<tr>
<td>Michałowice</td>
<td>15</td>
<td>Szulborze Wielkie</td>
<td>-15</td>
</tr>
<tr>
<td>Olszanka</td>
<td>15</td>
<td>Kuczborz Osada</td>
<td>-16</td>
</tr>
<tr>
<td>Ceranów</td>
<td>14</td>
<td>Izabelin</td>
<td>-19</td>
</tr>
<tr>
<td>Łack</td>
<td>14</td>
<td>Wieczynia Kościelna</td>
<td>-23</td>
</tr>
</tbody>
</table>

*italics* denote the communes located next to the city of Warsaw or closely connected with it.

4.2. Some conclusions

Although Table 2 is just an illustration, it definitely allows for drawing of some important conclusions, especially against the background of the entire ample set of results. Thus, let us note some of these conclusions:

--- the scoring system developed and the actual content of the websites checked yielded a wide diversity of total score values; this is insofar important as enabling a true comparison (in a similar context, the assessment of e-administration-related quality of county websites, conducted since 2003, brought already in 2007 a very even level of scores close to maximum, so that little room has been left for either comparison or development);

--- the score-based ranking is quite distinctly organised into groups of similar qualities: very high, with scores between 53 and 35; medium high, with scores between 28 and 22; medium – between 15 and 7; low – between 4 and -8; and very low – from -15 to -23;

--- the scores are relatively strongly correlated with the general quality and functionality of the same websites, as evaluated through the standard WAES (WAES, no date) or the extended WSOSI systems, the latter developed by the authors of this paper (see, e.g. [55-57]);
likewise, there is a definite correlation of these scores with the location of the communes; as indicated in Table 2, quite a share of the best ones are situated next to the city of Warsaw, actually largely within its metropolitan area (five among the top ten communes); yet, there are also clear exceptions to this regularity (Raszyn, and, notably, Izabelin); certainly, additional factors, associated with the concrete human factor, come into play.

All in all, the preliminary, exploratory study allowed for (a) definition of the pragmatic methodology of data gathering in the subsequent stages of research, and (b) formulation of additional, more specific study hypotheses.

5. Final remarks

The study here outlined tries to grasp several substantive and methodological threads in the research on the advance and meaning of the ICT for local development, involving, in particular, the analysis of local (social) networks of specific, inter-institutional character. It is rooted in the experience, gathered by the project team within the particular fields of this project, such as, in particular, assessment of quality of the local authority websites, graph theory and cluster analysis. This body of experience, along with the results of preliminary studies, allow for hoping that the investigations shall bring tangible results in terms of identification of local web-based networking structures, and the nature of their interrelations with local development.

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TIROLS: local Web-based networks centred on self-governmental websites vs. local activity – a project outline

TIROLS: LOKALNE SIECI OPARTE NA INTERNECIE ISTNIEJĄCE WOKÓŁ STRON SAMORZĄDÓW A AKTYWNOŚĆ LOKALNA – ZARYS PROJEKTU

Streszczenie

W artykule przedstawiono zarys projektu badawczego o nazwie TIROLS, dotyczącego analizy sieci powiązań lokalnych, opartych na informacji i technice internetowej, z ośrodkami będącymi stronami internetowymi odpowiednich samorządów (zwłaszcza gmin). Projekt rozpoczął się ostatnio i prace empiryczne są w początkowym stadium. Celem jest zgromadzenie wystarczającej masy informacji na temat przedmiotowych sieci lokalnych, dokonanie oceny własności tych sieci, i ich zestawienie z danymi o rozwoju społeczno-gospodarczym odpowiednich jednostek terytorialnych.

Artykuł zawiera ważniejsze założenia projektu, w tym wynikające z wcześniejszych prac autorów, wstępne wyniki badań empirycznych, a także wnioski, jakie można z tych wyników wyciągnąć, zarówno metodyczne, jak i merytoryczne, dotyczące dalszych prac.

Słowa kluczowe: internet, strony internetowe, administracja lokalna, sieci lokalne, rozwój społeczno-gospodarczy, sieci społeczne.

Jan W. Owsiński
Aneta M. Pielak
Krzysztof Sęp
Instytut Badań Systemowych PAN
Newelska 6, 01-447 Warszawa
Rafał Ponichtera
Wyższa Szkoła Informatyki Stosowanej i Zarządzania
Newelska 6, 01-447 Warszawa
e-mail: owsinski@ibspan.waw.pl