W nowo formatującym się społeczeństwie informacyjnym w regionach jednoczącej się Europy jednym z głównych problemów rozwoju jest dostęp do informacji. Obecnie Internet stał się prawdopodobnie pierwszym i najważniejszym źródłem informacji. Regionalna dystrybucja urządzeń związanych z Internetem nie jest równomierna, jak to ma miejsce zwykle w zakresie wszelkiego rodzaju innowacji. Niniejszy artykuł stara się przedstawić regionalne dysproporcje w zakresie urządzeń i dostępu do Internetu na Węgrzech. Pomimo istnienia społeczeństwa informacyjnego trudno jest otrzymać dokładne dane na temat regionalnego rozmieszczenia urządzeń internetowych. W artykule kładzie się nacisk na zróżnicowanie w tym zakresie poszczególnych jednostek administracyjnych kraju. Badano zatem regionalne rozmieszczenie serwerów WWW oraz "telehouses" . Próbowano także, z drugiej strony, zebrać informacje dotyczące tych osiedli, które posiadają oficjalną stronę internetową lub posiadają zarejestrowaną własną domenę. Z przeprowadzonych badań wynika, że miejsce w hierarchii oraz wielkość osiedla są głównymi czynnikami, które wyjaśniają zaobserwowane różnice, a w niektórych przypadkach (głównie w porównaniach wschód-zachód) także różnice między regionalne. Największe różnice w ilości serwerów WWW obserwowane są pomiędzy Budapesztem a pozostałymi jednostkami administracyjnymi kraju. W przeciwieństwie do tego rozmieszczenie "telehouses", które wspierane są przez rząd centralny, jest bardziej równomierne.

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Some aspects to the regional distribution of the internet-accessibility in Hungary

Introduction

In the newly forming information society in regions of the uniting Europe one of the main keypoints of development is the accessibility of information. Nowadays the Internet has become probably the first and most important information source. The regional distribution of the Internet facilities is not equal, as it is usual in the connection of any kind of innovation. This paper tries to describe some aspects to the regional differences of the Internet facilities and accessibility in Hungary.

In spite of the emormous amount of data on the Internet we can't find exact data to describe all the regional differences of the Internet-facilities. Because of that we have chosen three types of data, which can partly describe the inequalities. These are the number of www-servers, the number of settlements with official homepages and which name has been registrated as a domain name and at least the number of telehouses in each settlements. Such data are interperetable, even on the level of the settlements.

Regional distribution of www-servers

The largest regional differences are at the distribution of www-servers. There are 530 servers in Hungary according the data of the Technological University of Budapest (*www.fsz.bme.hu*), and a little more than half of the servers are in Budapest. (Figure1, Table1). Of course there are more servers in Hungary, but only one server was counted per each institute. The main factor, which explains the regional differences of the www-servers, is the settlement-hierarchy. Beside Budapest 30,2% of the servers are in the county-seats (18). The counties are the NUTS-3 levels of the Hungarian administrative system with the population of 400.000 – 500.000 each. There are only 8 (1.5%) servers in villages. Three of them are in educational institutions (universities and secondary schools), two in factories (a brewery and a sugar factory), two in research institutions, and at least one at Ópusztaszer in the National Memory Park. In the eastern part of Hungary we can hardly find any servers except at the county-seats, but in the west the more developed Transdanubian part of Hungary, the distribution is much more balanced. Most of the www-servers are in public institutions (schools, universities, research centres, administrative and governmental offices, etc.). The distribution of the servers is a bit different in the capital, because of course the governmental and administrative offices are present, and 60% of the www-servers of

Budapest are at private firms in contrast of the 0-30% of the country as a whole.

Like most of the innovations the diffusion of the www-severs seems to be a hierarchical one. Nowadays the importance of Budapest has become less at population (20% in 1990, 18% in 2001), at the industrial production, but larger at the www-servers, the GDP, the service-sector, the university-students, the researcher workplaces, the wages, etc.

The regional distribution of the settlement domain names and homepages

We can hardly find data for the homepages of the settlements. It is also difficult to decide what we can call official homepage of a settlement. If searching a name of a Hungarian settlement, we can find several websites. In some of these websites we can find data about the settlements (tourist information, postal code, map, main informations of the settlements, of the self-government). But these websites are not settlement homepages. However, we examined the official settlement homepages, those homepages which are runned by the self-government of the settlements or those websites where there were at least two different links (not just a pure description of the settlement). The name of most of the official settlement's homepages is „www.settlementname.hu" (for example *www.debrecen.hu*), but there are a lot of villages which have official homepages, together with the neighbouring settlements. Because of these reasons, we can't say the exact total number of the official settlement's homepages. On

the other hand, we can count those registered domain names, which are settlement names. We have also data for the owners of these domain names, and as we see later there is a very strong connection between the number of registered domain names and settlement homepages. None of the registered domain names are live, some of them were only registered previously by different firms (mainly at Budapest).

The main factor again, of the regional differences of the domain names is the settlement hierarchy (Table 2). Almost all of those towns, which have more than 20.000 inhabitants, have registered domain names, but only some of the villages have domaines. The situation is the same at the settlement homepages. Most of the homepages are available only in Hungarian (first of all, the village's homepages), some of them (mainly the towns and the touristical places) are available in English and German as well.

The regional distribution of the domain names we can see in Figures2, 3, 4, 5, and Table3. Because the main factor is the settlement hierarchy, the best indices are at the eastern part of Hungary, because there are larger settlement there. At the more developed western part there are a lot of small villages (under 500 inhabitants) without registered domain names, so only a small part of settlements have domain names there. Because of the large regional differences of the settlement size it is more productive to investigate the domain names of the settlements by size categories. In this context the advantage of the more developed, richer, more innovative Western-Hungary is indisputable.

In all categories, the Western-Transdanubian Vas county belongs to the better group, but because of the frittered settlement structure of this county it is an average in aggregate. The counties of the eastern part of Hungary grow up in the categories in lesser nombers. There are small settlements near Kisbér, Szombathely, Ajka and Pápa, which have homepages and which make the indices of Komárom-Esztergom, Vas and Veszprém counties higher. These settlements do not have their own websites but share official homepages together, with pages 7 or each village.

Regional distribution of telehouses

Because of the extremly large regional and settlement differences of the Internet availability, the central government decided to support the smaller and poorer settlements, mainly the villages with telehouses. The government started the telehouse-programme by announcing a competition for them in the settlements. More than 200 settlements gained that support and built a telehouse. Because of the central support, the distribution of telehouses is much more balanced than the www-servers of the official settlement homepages. Most of the telehouses (telecottages) are in villages, but there is a small positive correlation between the settlement size and the number of telehouses (Table4). There are also smaller, but similar facilities mainly in small villages, connected to a telehouse. These objects are called telehuts. The number of telehouses and telehuts is still increasing; there are almost 200 telehouses and telehuts under construction. There are also special telehouses as well, for example telehouses maily for the most disadvantaged roma people in the eastern part of Hungary and there are some telehouses in the towns as well, mainly in the outer districts.

Today, the development still continues. According a survey of the Economic Researcher Co. 69% of the self-goverments had Internet-connection at the end of 2001. (From those settlements who sent back the questionnaire), another 23% have future plans. 24% of the self-government said that they have their own webpage, but 43% reported wanting to make their own webpage in the next 12 months. There are large differences between towns and villages: 64% of the towns have their own website, but only 17% of the villages have them. Almost 30% of the settlements planned on building telehouses in 2002 according the data of the Economic Researcher Co.

Table 1.
Distribution of the www-servers by settlement size and status on 01-06-2002.

Category	Nr. of www-servers	Nr. of settle-ments	Nr. of www-servers per settlements	Percentage of www-servers from total
Budapest	267	1	267,0	50,4
Regional centres	81	6	13,5	15,3
Other county-seats	79	12	6,6	14,9
Settlements with more than 20.000 inhab.	65	41	1,6	12,3
Settlements with 10.000 – 20.000 inhab.	24	76	0,3	4,5
Settlements with 5.000 – 10.000 in-hab	6	138	0,0	1,1
Settlements with 2.000 – 5.000 in-hab	4	483	0,0	0,8
Settlements with 1.000 – 2.000 in-hab	4	655	0,0	0,8
Settlements with less than 1.000 in-habitants	0	1719	0,0	0,0
HUNGARY	530	3131	0,2	100,0
Budapest	267	1	267,0	50,4
Towns with coun-ty status	179	22	8,1	33,8
Other towns	76	229	0,3	14,3
Villages	8	2879	0,0	1,5

Source. www.fsz.bme.hu/hungary/homepage.html

Table 2.
Percentage of settlements with registrated domain names and official homepages by settlement size (01-06-2002)

Settlement size (population)	Nr. of settlements	Settlements with registrated domain name (%)	Settlements with official homepage (%)
More than 20.000	60	98	100
10.000 – 20.000	76	77	75
5.000 – 10.000	138	50	51
2.000 – 5.000	483	26	28
1.000 – 2.000	655	15	16
500 – 1.000	687	9	12
Less than 500	1032	6	6
Together	3131	17	18

Source: *www.nic.hu*, and the homepages of the settlements

Table 3.
Percentage of settlements with registered domain names by counties (01-06-2002)

County	More than 20.000 inhab.	5.000-20.000 inhab.	1.000-5.000 in-hab.	Less than 1.000 in-hab.	Together
Baranya	100,0	100,0	24,4	1,6	7,0
Bács-Kiskun	100,0	62,5	17,6	0,0	23,1
Békés	100,0	55,6	18,4	6,7	29,3
Borsod-Abaúj-Zemplén	100,0	60,0	11,0	0,5	7,3
Csongrád	100,0	83,3	41,7	7,1	41,7
Fejér	100,0	77,8	18,7	9,5	23,4
Győr-Moson-Sopron	100,0	66,7	13,9	6,3	12,1
Hajdú-Bihar	100,0	33,3	18,2	0,0	20,7
Heves	100,0	66,7	25,3	10,8	23,7
Komárom-Esztergom	100,0	71,4	25,6	43,5	39,7
Nógrád	100,0	75,0	13,0	5,2	10,9
Pest	100,0	55,1	23,5	4,2	33,5
Somogy	100,0	71,4	25,4	1,1	9,8
Szabolcs-Szatmár-B.	100,0	43,8	5,2	1,0	6,6
Jász-Nagykun-Szolnok	75,0	50,0	14,6	0,0	23,1
Tolna	100,0	66,7	11,1	5,5	13,0
Vas	100,0	100,0	48,1	16,9	23,1
Veszprém	100,0	75,0	41,7	18,8	27,1
Zala	100,0	100,0	25,6	8,0	12,5
HUNGARY	98,3	59,8	19,8	6,9	17,0

Source: *www.nic.hu*

Table 4.
Distribution of telehouses and telehuts by settlement size om 01-06-2002

Settlement size (population)	Tele-ho-use	Teleho-use under con-struction	Telehut	Telehut under constr.	Teleho-uses and telehuts together	Teleho-use sup-ply*
More than 20.000	15	11	0	2	28	47
10.000 – 20.000	11	12	0	3	26	34
5.000- 10.000	14	14	1	1	30	22
2.000 – 5.000	56	34	7	9	106	22
1.000 – 2.000	62	40	6	8	116	18
500 – 1.000	39	32	8	14	93	14
Less than 500	24	15	16	16	71	7
HUNGARY	221	158	38	53	470	15

Source: *www.telehaz.hu*

Telehouse supply: number of telehouses and telehuts per 100 settlements

Figure 1. www-servers by settlements, may

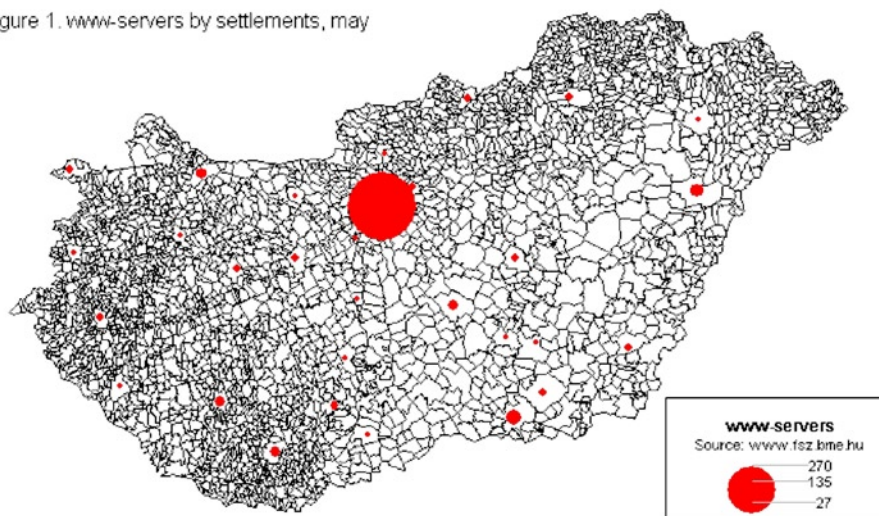Figure 2. Settlements with registered domain names
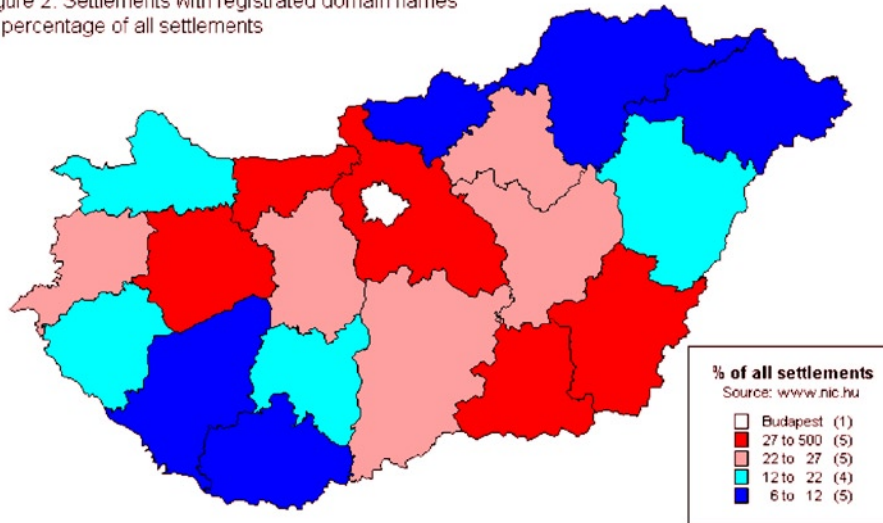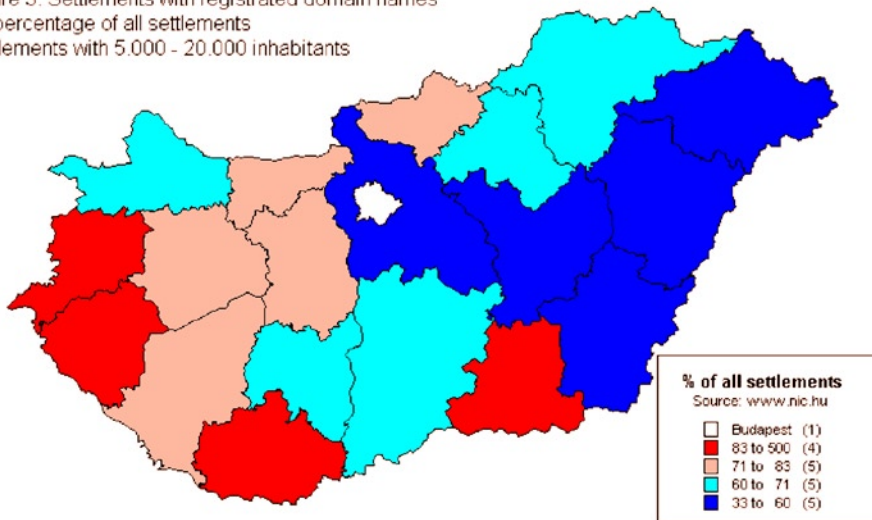by percentage of all settlements

% of all settlements
Source: www.nic.hu

☐ Budapest (1)
■ 27 to 500 (5)
■ 22 to 27 (5)
■ 12 to 22 (4)
■ 6 to 12 (5)

Figure 3. Settlements with registered domain names
by percentage of all settlements
Settlements with 5.000 - 20.000 inhabitants

% of all settlements
Source: www.nic.hu

☐ Budapest (1)
■ 83 to 500 (4)
■ 71 to 83 (5)
■ 60 to 71 (5)
■ 33 to 60 (5)

Figure 4. Settlements with registered domain names
by percentage of all settlements
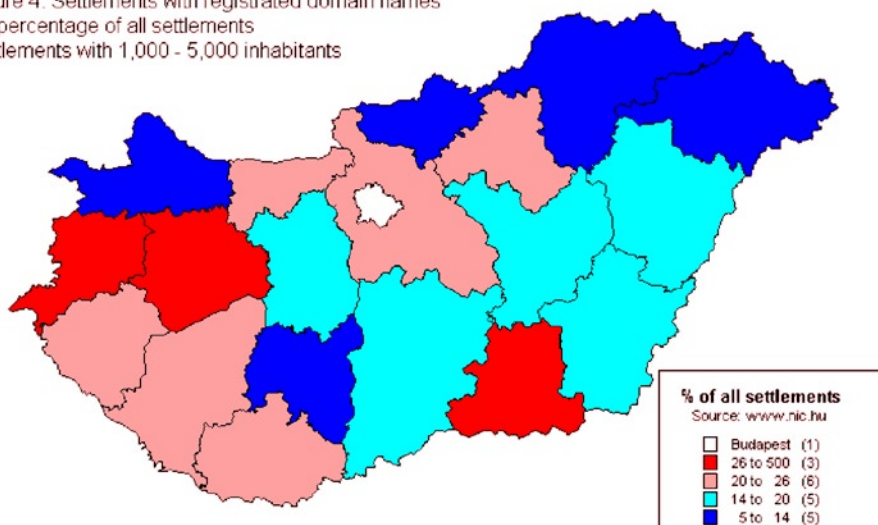Settlements with 1,000 - 5,000 inhabitants

% of all settlements
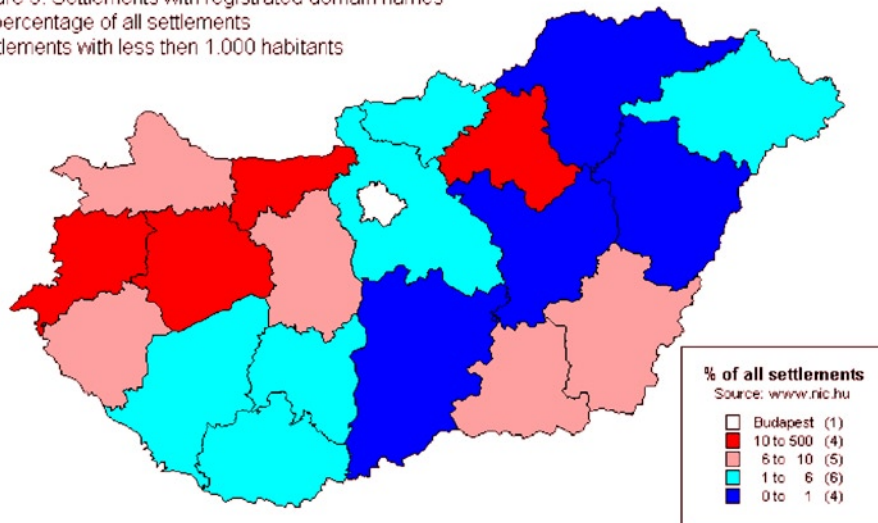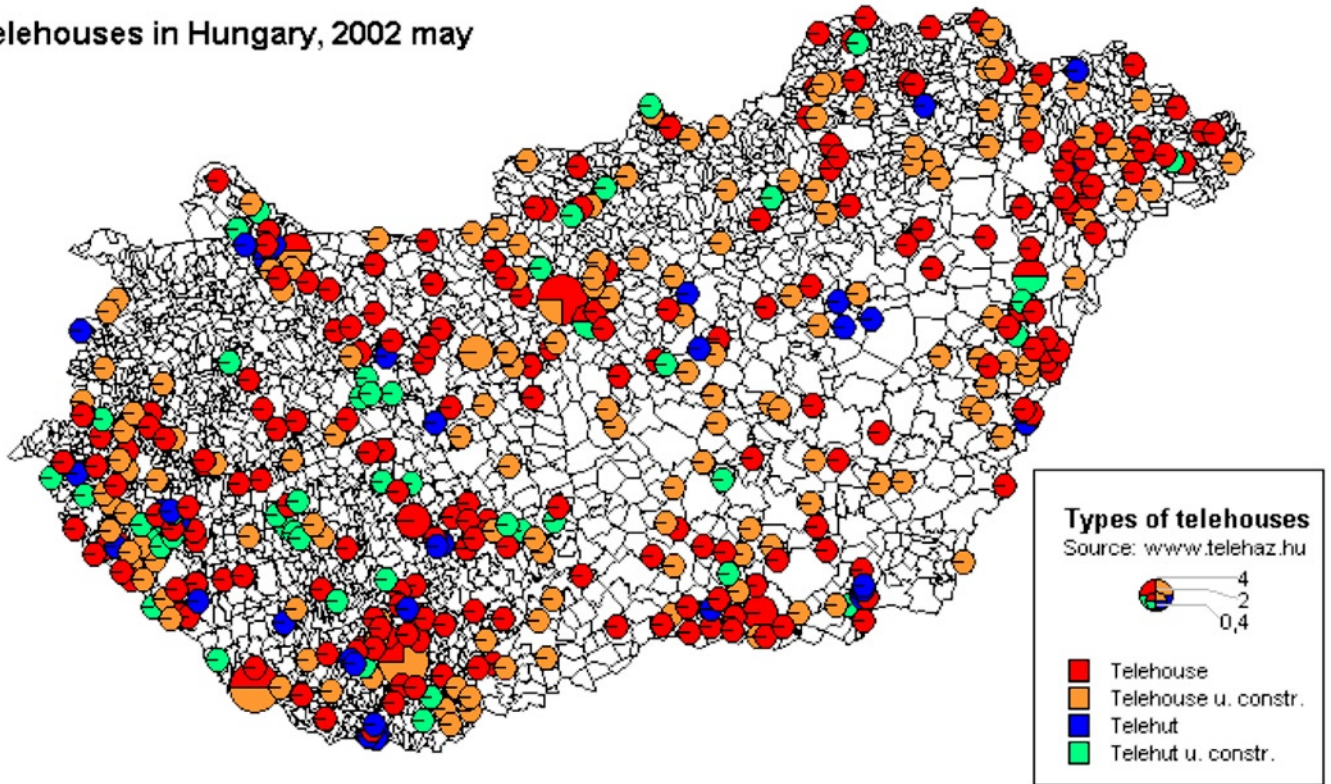Source: www.nic.hu

☐	Budapest (1)
🟥	26 to 500 (3)
🟧	20 to 26 (6)
🟦	14 to 20 (5)
🟦	5 to 14 (5)

Figure 5. Settlements with registered domain names
by percentage of all settlements
Settlements with less then 1.000 habitants

% of all settlements
Source: www.nic.hu

☐	Budapest (1)
🟥	10 to 500 (4)
🟧	6 to 10 (5)
🟦	1 to 6 (6)
🟦	0 to 1 (4)

Telehouses in Hungary, 2002 may

Types of telehouses
Source: www.telehaz.hu

- 4
- 2
- 0,4

- ■ Telehouse (red)
- ■ Telehouse u. constr. (orange)
- ■ Telehut (blue)
- ■ Telehut u. constr. (green)

References:

www.e-bolt.hu

www.fsz.bme.hu/hungary/homepage.html

www.nic.hu

www.telehaz.hu