

University of Pécs
Faculty of Sciences
Doctoral School in Geology

**RADIO – AN INNOVATION OF COMMUNICATION IN
SPACE AND TIME**

Public, Commercial, Regional, Community and Internet Radio

Theses of Doctoral Dissertation

Emma Szigethy

Consultant:
Dr. József Tóth DSc
professor

Pécs, 2007.

Doctoral Programme: Doctoral Programme of Earth Sciences

Leader: Prof. Dr. JÓZSEF TÓTH D.Sc.
professor, rector emeritus
Institute of Geography, PTE-TTK

Doctoral thematic group: Communication Geography

Leader: Prof. Dr. JÓZSEF TÓTH D.Sc.
professor, rector emeritus
Institute of Geography, PTE-TTK

Field of dissertation: media research

Consultant: Prof. Dr. JÓZSEF TÓTH D.Sc.
professor, rector emeritus
Institute of Geography, PTE-TTK

1. INTRODUCTION

Since the late twentieth century, we have seen that communication is the most significantly growing field. Communication penetrates into our everyday life, it affects our behaviour, our decisions.

The meaning of “communication” is complex: conveyance, information transfer and the result of it (*Magyar Értelmező Szótár*, Hungarian Monolingual Dictionary). According to another, more complex definition, communication is the transmission or exchange of information by means of a suitable device or system of symbols. Sometimes it may mean the information itself (*Idegen szavak és kifejezések szótára*, Dictionary of Foreign Words and Expressions). Its archaic meaning is connection, transport, contact.

The essence of communication is that parties being in connection with each other can convey something between each other through a system of symbols accepted by them, and in this way they can influence each other’s behaviour. In this process, a symbol may be anything that is not only identical with itself, but also refers to something beyond itself (FERCSIK E. – RAÁTZ J. 1999). Considering the general concept of communication, we can assert that – if this process is, in fact, nothing else but the conveyance and exchange of certain pieces of information – all situations in which two or more, relatively independent systems have effects on each other can be considered an example of communication. Therefore, either human beings, animals or machines exchange information, it is necessary to have a sender (emissor) and a receiver (destination), a channel or medium connecting the sender and the receiver, a message or information, which the sender transmits to the receiver through the channel, and finally, a kind of common means of expression or code, which makes understanding possible (SZABÓ K. 1997). Communication is an interactive process and a system where the participants reciprocally take the roles of information sender or encoder and information receiver or decoder.

If we examine the great revolutions of information technology – the appearance and development of language, writing, printing, telecommunication, computer networks – communication has always been the dominant element, as information systems that are considered great from the point of view of the psychology of thinking show us their communicational aspects primarily. It conceals their original, non-communicational fundamentals (KUNSZENTI M. 1995).

In the case of global IT systems, we know that at the beginning, the original starting point was a need of numerical nature to solve problems that required great capacities of calculation. The aspectable communicational function appeared only at the umpteenth generation of machines solving the original problem more and more perfectly.

In the case of writing, the situation has not been so obvious until recently. Researches of scriptural archaeology have revealed that at the time when the system of calculating stones used for recording was no longer capable for the combined recording of the quantities and the related items, methods imported from several other places (pottery symbols, seals, magic symbols, etc) and a proto-syntax making the combination of signs possible melted into a new system.

In case of the reconstructions of the development and anthropogenesis of language, it is hard to justify the communicational interpretation. From Chomsky through Bickerton to Vilmos Csányi, we can read a lot of convincing arguments, although there are still debates on the real, non-communicational content of the evolutionary advantage of language. It is beyond doubt that linguistic denomination made the representation of increasing number of environmental elements possible, therefore one can find a sort of numeric “challenge” beyond spoken language, too. It can also be traced in the system of communicational process.

A beloved field of study of historical thought is that of the systems of communication. (There are a lot of works published on “communication history,” while there are only a few ones on “information history”.) Today information and communication are dominant factors constantly influencing the culture of society. There are several terms referring to society technically developed (and is able to make use of new information), e.g. the society of knowledge, knowledge-based and/or communicational, telematic society. Most terms imply a hypothesis that future society is one where technical communication, a digitalised communicational system is predominant.

Digital technology does not only mean the digitalisation of communication, but also the emergence of new procedures and devices. Its evolution was, among others, facilitated by the micro-electronical revolution of the early 1980s, the technology of satellites, fibreglass cables, and the circle of related researches, as well as the newly acquired knowledge. By utilising the benefits of digitalised communicational system in a rapid development, the future world of media will induce newer and newer systems of relationships. The basis of relationships is information, which is a valuable source and will remain such in the future, too.

On the other hand, outside relationships, information is also the basis of knowledge. Knowledge is power, which is based on acquiring as much information as possible as fast as

possible. In an information society, where a lot of information is “produced,” it is essential for us to be able to choose the pieces of information that are useful for us from this oversupply. That is why selection and the wide range of services facilitating it are getting more and more important. With the help of the Internet, the latest information is available virtually everywhere, almost at the same time of its appearance. This universal accessibility of information is a positive effect, because one who is able to make use of information, i.e. to select and thoughtfully match pieces of information, can acquire knowledge.

2. RESEARCH HISTORY

The development of radio has been in closer and closer connection with the political history of various societies and later with global, international processes, too, since the first third of the twentieth century. Although since the invention of radio, but especially in the past few years, several studies and researches have tried to assess the effect of radio on masses, to examine its effectiveness, as a means of mass communication, the way and the field of its influence; there has been few overall studies published. The American D. J. BOORSTIN was right in his remark that several topics, like e.g., the history of photography, the technical development of artistic reproduction, the history of tourism, hotels or radio and television are considered to be fields below the dignity of historians – or at least marginal ones.

In his theory of mass culture, MARSHALL MCLUHAN was the first to draw attention to the significance of inventions like radio and television, and to the effect they have on our worldview and lifestyle (MCLUHAN, M. 1964). He was also the one who adequately emphasized that the effect of these media is essentially different from that of a book or a film, that they have special methods and effects, that their prerequisites are of technological nature, i.e. are based on the achievements of our age in electronics. In his view, the real means of telecommunication are radio and television. They are the most widely spread, the most popular, almost indispensable media of entertainment, free-time activity, shortly: they are stopgaps, which help people forget the fact that they have no idea what to do in their free-time. According to him, most people’s life would be practically unbearable without them, and indeed, today there are scarcely any households – except for certain isolated, rural areas – where there is not at least one radio and, possibly, one television, too. They are suitable for mass consumption not only because the entertainment provided by them is plain, but also because it is available at a low price.

Sociologists BERELSON, LAZARFELD and MCPHEE studied the role of telecommunicational devices in the United States during the 1948 presidential elections campaign. They found that telecommunicational devices crystallize and strengthen opinion, but do not change it. This conclusion was challenged or supported by several sociologists, respectively.

In his work *Effects of Mass Communication*, JOSEPH T. KLAPPER studies the effects of mass communicational devices. In his view, these devices exercise influence through mediatory instruments and not directly. Their aim is communication and not the consolidation of a standpoint. It is enough to listen to our friends, they will certainly tell us the case, maybe with special emphasis. Messages like this usually begin as: “Have you heard on the radio?” or “I’ve heard on the radio that...”

The following statement by the critic of New York Herald Tribune JOHN CROSBY can be called Crosby Rule: the topic is much more important than the person speaking into the microphone. The power of speaker depends on the topic.

Lazarsfeld discusses the effect of mass communication on society in more details. He is the one who expresses worries about the effect of radio and television on society. He states that listeners in dictatorial countries deal with the monopolising effect of radio the most. By monopolising radio, governments exclusively determine the opinion of the population by means of constant repetitions and the suppression of contrary opinions.

Later McLuhan fiercely opposed Lazarsfeld’s statements, according to which even the most down-to-earth, the least visual European cultures cannot be indifferent towards radio (MCLUHEN M. 1964).

M.R. ARONNAK believes that radio is the only communicational device that exerts the same influence on almost the total population. Television did not manage to dethrone it, the voice of radio can be heard everywhere. He emphasises that in most cases, it is not the content – what the radio says – that is important, but the way information is conveyed.

Radio played an especially significant role in the process when young countries became nations, and in cultural and social development. FRANCIS BEBEY says we like radio, it helps us explore ourselves, our culture, our art; it makes it possible to compare our folk songs with those of other nations; it teaches us not to be jealous of anyone, as we ourselves have also our own cultural heritage, our fascinating, original music; we have several values and radio teaches us to preserve them carefully; we like radio because we can talk to the people living in the neighbouring countries, we can familiarise them with our country, our customs; we help

them understand us better; in this way we serve the benefit of all mankind the best (BEBEY F. 1963).

Considering the history of Hungarian researches into this topic, we should begin with the illustrated book *A Magyar Rádió öt esztendeje 1925-1930* published by *Rádióélet* in Budapest in 1930. It was followed by the publication of the next illustrated book *A tízéves Magyar Rádió 1925-1935* in 1935, which was a fruit of the co-operation between Magyar Királyi Posta, Magyar Telefon Hírmondó and Rádió Rt. Both publications show a detailed picture of the radio of that age, the development of radio technology. In the following years, 26 other publications were published about the prominent representatives of Hungarian Radio and, partly, of Hungarian Television, like e.g. *Egy magyar médiavezér: Kozma Miklós pokoljárása a médiában és a politikában, 1919-1941* (Polgart Kiadó, Budapest, 2000).

The present study is based, among others, on the works by KOZMA MIKLÓS, NÉMETH LÁSZLÓ, SUGÁR GUSZTÁV, AJTÓSI DÜRER K., CSERÉS MIKLÓS DR., BBC principles, GÁLIK MIHÁLY, GYÖRGY PÉTER, GLATZ FERENC, ORMOS MÁRIA, TÓTH ESZTER, BARCS SÁNDOR, SCHÖPFLIN GYULA, and on the technical development of radio: HECKENAST GÁBOR, HORVÁTH GYULA, SZÓTS ERNŐ, UJHÁZY LÁSZLÓ.

The above-mentioned authors – renowned experts and radio experts – expressed their thoughts on the beginning of radio and broadcasting, and carefully followed the development of radio technology.

In 1975, on the fiftieth anniversary of domestic radio, a group of young historians of Tömegkommunikációs Kutatóközpont (Research Centre of Mass Communication) was commissioned to analyse the first decades of radio broadcasting in Hungary from a historical point of view. This study analyses the events, processes and interconnections of the first two decades of domestic radio broadcasting, interpreted as an integral part of the political and ideological history of the social conditions of that age.

When I started to prepare for the researches into the topic of my thesis, I first contacted the Library, later the Archives of Hungarian Radio. A lot of works have been published since the late 19th century, however, there is virtually no material available on the practical implementation of theoretic works in Hungarian Radio.

The creation of a publication summarising and integrating the archives of Hungarian Radio was necessary in order to remedy for this deficiency and to provide study material for internal and external (further) trainings, courses organised by Hungarian Radio. I was also able to take part in this task. With the help of my colleague Katalin Illényi, I searched for data, facts, publications from the history of the that time 75-year-old Radio. Each part of the

archives of the Radio has an abundant literature. Afterwards, I tried to make a historical survey from the beginnings on how and when radio began, who took part in it, what kind of works were published – and, of course, I studied all of them. Hungarian Radio has several publications of its own that I managed to make use of during my researches.

Of those, I must draw attention to certain issues of *MAGYAR RÁDIÓ ÚJSÁG* and *RÁDIÓ ÉLET*, in which I found information on the situation of radio of the age (regarding both broadcasting and technical / technological / infrastructural background) in the works by various authors.

3. AIMS

The chosen topic of my present thesis is a field of communication that has a quite long history, however, its scientific process is so insufficient that even the exact definition of certain concepts are still missing.

One of my fundamental aims is the detailed presentation of the development of international and domestic radio.

The first greater section of the present thesis tries to summarise and analyse – in both space and time – the beginning of radio, its social and technological development, the evolution of new genres, the changes brought about by historical eras. I try to answer the question of what social processes determined innovation as well as the temporal and spatial growth and expansion of radio.

Furthermore, I thoroughly examine the spatial and temporal development and situation of public, commercial, regional, community and internet radio. What are the characteristics of these types of radios? I present and analyse the tendencies of radio since the change of the political system, I have collected their characteristics and social fruits.

Technical development was essential in the spreading of radio. An integral part of the analysis is the presentation of technical background, therefore I also discuss the technological and technical development of radio. I analyse the technical / technological development regarding not only the given radios, but also programme making. What were these innovations, what were their results, their effects on society?

Between 1986 and 2000, the total time spent on media consumption by the domestic adult population did not change, but there were significant changes in its composition. The

sudden transformation was during the years of the change of the political system. This significant transformation made me have a closer look at this process on the basis of the available time-budget studies by all means. I discuss the reasons, the process and its characteristics. In order to find them, I had to analyse the listening indexes of domestic radios. It was necessary to examine the procedure of programme making, to analyse media listening habits and their changes based on social criteria.

I drew attention to the major media regulations, of which several ones were created only after the related events or can be observed in practice only partly.

4. RESEARCH METHODS

The present dissertation addresses the issues concerning the development of radio, its technical level and listening indexes, with special focus on the researches into listening index, new radio listening habits and their spatial appearance. Since this outlook is quite wide and the topic requires a manifold approach (social, technical, legal), the applied methods accommodate themselves to this fact, too.

- analysis of documents:

First, I reviewed and compared the studies, domestic and international literature, reviews, operation manuals, conceptions, laws that determine the frameworks of radio. These documents facilitate the analysis of the social and technical effects of radio – as an innovation of communication – and of the changing tendencies of listening indexes.

- interview:

I contacted and interviewed experts concerned by and well-informed in the topic, experts of communication and technics, fellow editors.

- personal data collection, survey:

Primarily, I carried out the *oral and written survey* of students majoring in communication, attendants of communities (clubs, community centres) on their radio listening habits. The questionnaires were filled in by people aged 18-74, having typically secondary level qualifications and belonging to both sexes. The number of processable questionnaires was almost 300 (see Appendix).

- analysis of databases

The most important secondary method is the sorting and the processing of the high amount of data available. In this work I used and processed the annual figures in the *Yearbook (Statisztikai Évkönyv)* of Hungarian Central Statistical Office (KSH), and I often referred to their online database. I constantly monitored the data published by Szonda-Ipsos, Medián, Gallup, as well as listening and time-budget indexes, and included them in my work.

- *making analyses*

I made analyses of the official websites, radio related data, organisational operation of various areas and radios (regions, micro-regions, settlements). I analysed the characteristics and listening indexes of internet radios by examining the portals of Hullámvadász and other internet radios.

5. SUMMARY OF RESULTS

Milestones of the Development of Hungarian Radio until the Change of the Political System

Studying the development of domestic and international radio, I found that an important instrument of mass communication is *radio*, which was a determining factor in the informing of the population, especially before the emergence of television. The history of radio begins with telephonograph and continues until contemporary digital internet radio.

Though it may seem contradictory, among the nations of the world using radio, Hungary has the longest history. The first example of the still existing system broadcasting programmes from a centre through wires was Telefonhírmondó (telephonograph) in Budapest.

The first radio programme was broadcast in Belgium on 18 March, 1914, the first regular radio programme in the world began in 1921 in the USA (Pittsburg), the first European regular radio programme was launched in the Soviet Union (Moscow) in 1922. Regular broadcast in Hungary started relatively late, on 1 December, 1925.

The foundation of Hungarian Radio (Magyar Rádió) is connected to Miklós Kozma, who was the head of Hungarian News Agency Corp. (MTI) in the early 1920s. Since the beginning of regular broadcasting, radio has been a state monopoly, and the idea of public service has become one of the fundamental aims of radio of the age (KOZMA M. 1925).

The initial evolution of Hungarian Radio took place in 1928-1940. The number of radio subscribers was 59,529 in December, 1926, which rose to 266,567 by 1 January, 1930. The number of studio broadcasts multiplied, new programmes were launched, programme

makers and the technical staff were further educated at foreign language trainings. In this period, a planned and accomplished aim was continuous technical development (keeping pace with the development of the age), the creation of programme structure, the familiarisation of wide layers of the population with the arts of music and literature.

The year 1943 – in spite of the war – demonstrated the viability of Hungarian Radio, since it performed outstandingly even on a European level. Budapest I. broadcast continuously for 18 hours a day, Budapest II. for 5 hours on average, the radio of Kassa (Kosice) for 3 hours daily, while the shortwave programmes transmitted to North and South America from midnight to dawn were on for 4 hours. It means that Hungarian Radio broadcast programmes amounting to 32 hours daily, i.e. a total of 12,000 hours in the given year.

After the war, the ruined transmitting station, the damaged and ransacked studio buildings, the stolen internal equipment made the restart of radio impossible. The fact that at the beginning of 1945, it was temporarily forbidden to listen to the radio due to military orders, did not worsen the situation too much, because there were only a very few people who had radio sets in working conditions. After World War II, radio network was also reconstructed at a surprisingly fast rate. In the second stage of reconstruction, the so-called people's radio (Néprádió) appeared in shops, which was not only cheap, but it also had fixed tracking, therefore it was capable for receiving only three stations: Kossuth of Budapest, Petőfi of Budapest and one intermediary station (usually Petőfi of Balatonszabad). On 1 May, 1945, Hungarian Radio began to broadcast again, and in 1946, Budapest II. started to operate again, too. At the time of coalition government, the choice of programmes was very versatile, the appearance of political parties on radio was more or less balanced until 1947, however, in 1949 the State Security Authorities (ÁVH) already protected the building of Hungarian Radio. The Power of that time believed that access to information can be prevented by the limitation of receiving possibilities, but the Hungarian broadcasting of *Voice of America* received a frequency close to that of Petőfi (1340 kHz), and it broadcast with such high power that it could be received throughout the whole Europe.

The idea of local and regional radio rose during the young Hungarian democracy, too; in 1946, the heads of the city of Pécs and the county of Baranya contacted Hungarian Post with the request to enable the city's transmitting station to broadcast its own programme, too. Regional broadcasts, however, had to wait until 1952-53 to come into being, and even today they are not among of the obligatory duties of public radio. The first domestic regional studio was opened in Nyíregyháza in 1952.

The events of the 1956 Hungarian revolution bear significance concerning media history, as well. From 24 October, 1956 on, the programme of Hungarian Radio was broadcast from the bunker of the Parliament, but transmitting stations broadcast their own programs, too, from 28 October on, and there were also several pirate radios. The technical equipment needed for broadcasting was obtained with the help of mini planes coming from the neighbouring Austria inside of balloons and boxes dropped with parachutes in 1955-56. The station in Szolnok, which announced the formation of the Revolutionary Worker-Peasant Government, was also considered to be a pirate radio, as instead of its own frequency, it used that of 539 kHz of Budapest. With the help of devices acquired from Austria or fabricated at home, local broadcasts were started, like e.g. Radios Rákóczi and Csokonai. Following the siege of Hungarian Radio, the programme structure and the overall tone of the Free Radio Kossuth (Szabad Kossuth Rádió) served the aims of the revolvers. It is worth noting what an important strategic target was the occupation of the radio, the consequences of which are still felt today.

In the era before the change of the political system, there were only about a dozen domestic local and regional initiatives. All of them were characterised by the purpose to operate independently of Hungarian Radio. In the early 1980s, the first country radio that received a permanent licence in 1994 was founded in Baja. In 1986, the transmitting station in Szentes had the idea to separate itself from Channel 3 for the time of the local programme. However, István Hárs, then president of Hungarian Radio, did not welcome the initiative. Meanwhile, sociologist Lázár Guy, a Hungarian spokesman of free radio wanted to set up a local radio on a housing estate. It was only due to a couple of days that he did not manage to start his radio. Also in the second half of the 1980s, the Budapest committee of Communist Youth Union of Hungary (KISZ) wanted to establish its own radio, but it was not crowned with success, either.

Changes Following the Change of the Political System and their Consequences

The Relationship between Public and Commercial Radio

In Hungary, before the change of the political system, mass communication was completely controlled by the state, although a few programmes having a more liberal tone were broadcast, too. The social, economic changes following the change of the political

system and the dual, later tri-polar media situation created by the media law, necessitates the repeated comprehensive examination of the situation of radio and, with the rapid development of technology, the monitoring, analysing and comprehensive studying of Hungarian and foreign language radio broadcasting and listening habits beyond the border.

In 1993-94 – since the distribution of frequencies and the creation of media law – besides the three stations of Hungarian Radio, several local radio stations started to operate and broadcast their own programmes. The first licences were given irregularly and, from a professional point of view, randomly. In July, 1994, new professional negotiations began with the purpose to create the media law as soon as possible. The media law created in 1995 immediately contained a loophole, as it was not clear who is authorised to judge appeals after the competence was taken from the Ministry of Culture and Public Education. Nobody took the created media law seriously, because the deadlines were unobservable and the paragraphs were ambiguous.

Of the two dominant commercial radios of that time, Radio Danubius owes its existence to the special situation created by the fact that Hungary – like most Socialist countries – used an FM band (the so-called OIRT) different from that used in Western Europe. Following the international negotiations in the 1980s, Hungary could also use the so-called CCIR band, which was originally meant to broadcast the programmes of Radios Kossuth, Petőfi and Bartók. Since, however, there were hardly any radio sets in the country capable for receiving broadcasts on CCIR band, an idea was raised to launch a German language programme connected to growing Austrian tourism. As a result, Radio Danubius was founded, providing a good source of income for some employees of Hungarian Radio. The programme was broadcast from Hill Kab and from Budapest. However, since the beginning, Danubius has been listened to by Hungarian inhabitants and not by Austrian tourists, because this radio brought the atmosphere of the desired free world; a language not understood by many but being “western,” English language hits and well-made commercials reflected the media picture of market economy. Therefore, Danubius did not cease operation after the summer season, but continued to broadcast in Hungarian.

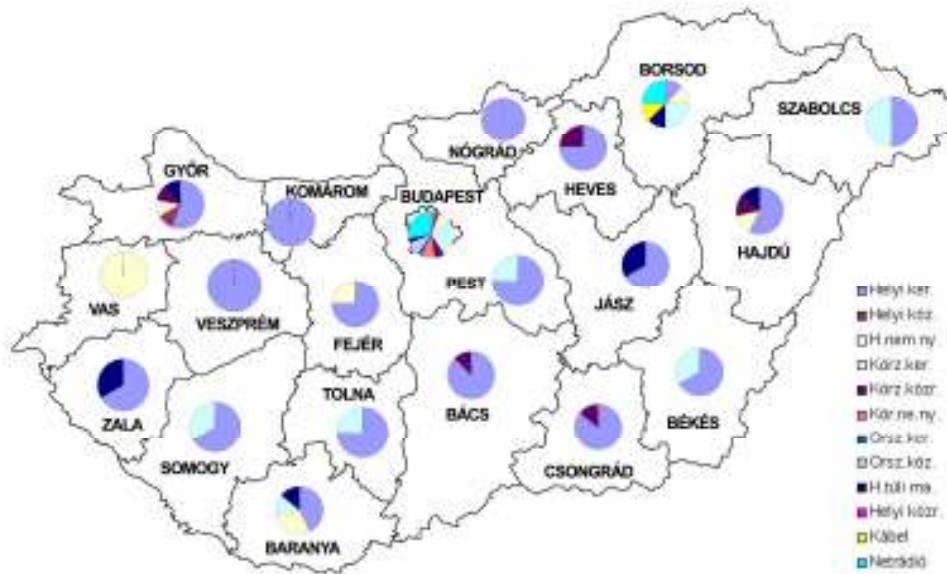
The other dominant station (Radio Sláger) started to broadcast much later, in 1998. In its background, there is a consortium operating sound multinational media enterprises, and its experience and capital greatly facilitated its penetration into and growth in the Hungarian market. The great loser of this aggressive and effective market activity was clearly the public radio.

Analysing the statistical data and data from surveys, one can clearly see the process in consequence of which Hungarian Radio (in the past two decades, but especially since the media law) has lost 70-80 % (depending on the given survey) of its listeners. The most grievous loss of public radio is losing the young generation; almost 90% of listeners aged below 40 left. Between 1968 and 2000, the total time spent on media consumption by the domestic adult population did not change, but there were significant changes in its composition. On an average spring day, the total time of media consumption was about four hours in 1986, just like in 2000. However, within it, the proportion of television watching rose from 48% to 72%, while newspaper reading fell from 16% to 8% and radio listening decreased from 36% to 20%. (KSH 1986/1987, KSH 1999/2000)

The listening index of Hungarian Radio began to decrease even in the second half of the 1980s, during the monopoly of the institution: in 1985 it was 135 minutes per day on average, in 1986 132 minutes, in 1987 125 minutes and in 1988 109 minutes. Although it soared in the years of the change of the political system (1989 – 113 minutes, the first half of 1990 – 160 minutes), but it has been declining again ever since. (LÉVAI B. 1992)

The main reasons can be summarised as follows:

With the rapid development of technology, a fierce competition evolved between public and commercial radios in order to attract listeners. Before the change of the political system, there were only a few regional radios (and televisions). In the 1990s, a spectacular change took place with the emergence of nationwide and regional commercial radio stations and with the massive foundation of local (city) radio (and TV) stations; now several dozen nationwide and regional, and several local studios broadcast radio programmes (see Map 1), as a result, the hegemony of public radio centred in Budapest has ceased to exist. The new “pretenders” (primarily commercial radios) represent everything that public radio lacks: flexibility, market orientation, excellent marketing background.



Map 1. Radios operating in Hungary

(Ed. by SZIGETHY E. - KOVÁCS G. 2006)

The signs indicate the type of radios in the given county.

Helyi ker.-Local com., Helyi köz.-Local publ., H. nem ny.-Local non-publ., Körz. ker.-Regional com., Körz. köz.-Regional publ., Körz. ne. ny.-Regional non-publ., Orsz. ker.-National com., Orsz. köz.-National publ., H. túli ma.-Hu. abroad., Helyi közr.-Local publ., Kábel-Cable, Netrádió-Net radio.

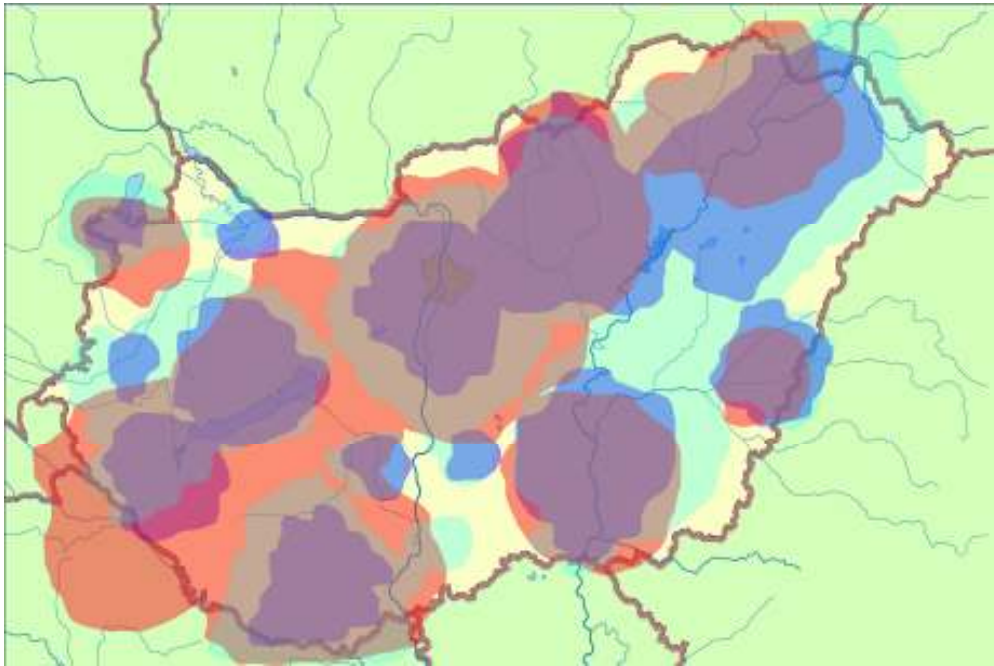
Of public radios, only Radio Kossuth is competitive (and even there only the programme *Déli Krónika* (Midday Chronicle), young generations no longer listen to the programmes of Radio Petőfi, and Bartók conveying high culture has always served a narrow layer of listeners only. According to the data collected by Szonda Ipsos and Gallup, the listening index of Radio Kossuth is 24%, that of Petőfi is 12%, while that of Bartók is 1%. Furthermore, the audience of public radio is aging, which forecasts the further decrease of listening index. (*A Magyar Rádió hallgatottságának alakulása*, SZONDA IPSOS, 2004).

This process seems even worse if we examine the area where the given radio broadcasts can be received (through traditional terrestrial broadcasting). The small size and terrain configurations of Hungary favour radio (and television) broadcast. The centre of domestic radio (and television) has been the capital for several decades, and programmes sent from there have reached almost the whole population through transmitting and relay stations.

Owing to the nationwide, main broadcasting network containing over 200 stations, the programmes of the three national public radios (Kossuth, Petőfi, Bartók) could be received in proper quality in more than 85% of the area of Hungary in 1998. Since the gradual introduction and territorial expansion of CCIR broadcasting, almost each settlement can

receive the broadcast of any of the nationwide public stations (including country studios) in proper quality (see: Map 2).

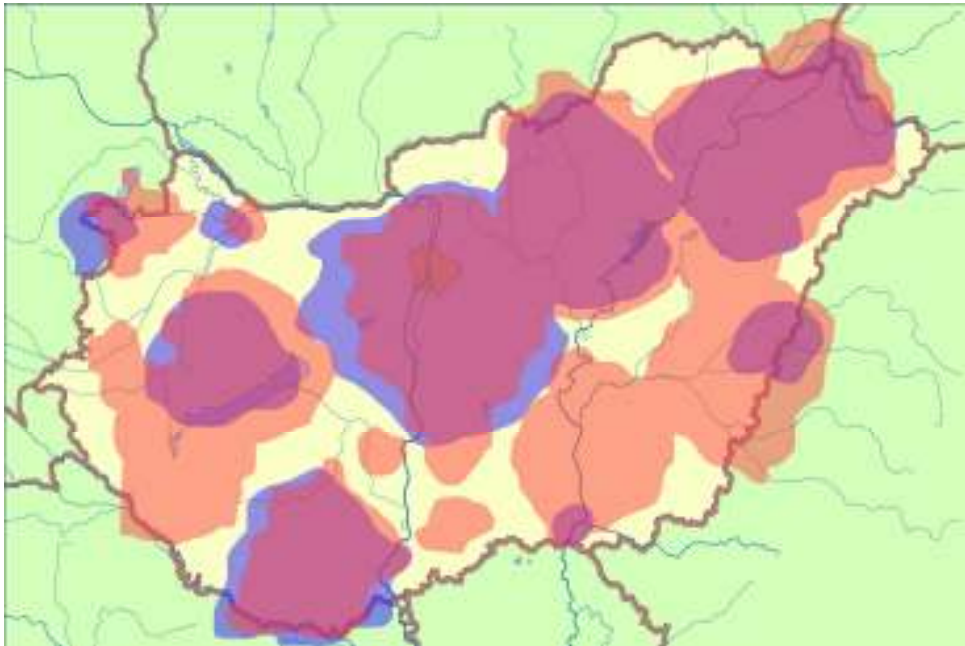
If we compare this coverage with similar parameters of the two dominant commercial radios, we can see that public radios can reach greater masses. Consequently, where people can receive both commercial and public radios, a significant proportion of them prefer the former (see: Map 3).



Map 2: Nationwide coverage of public radios

(Source: Based on data from Antenna Hungária, ed. by SZIGETHY E.-KOVÁCS G. 2006)

(legend of colours: red-Kossuth, dark blue-Bartók, light blue-Petőfi)



Map 3: The coverage of nationwide commercial radios

(Source: Based on data from Antenna Hungária, ed. by SZIGETHY E.-KOVÁCS G. 2006)

(legend of colours: red-Sláger, blue-Danubius)

In many cases, the most significant segment of domestic radio is rapidly developing local radio. Local radios can also be considered commercial. They are not nationwide, but rather serve a specific, well-defined community. Their history was mentioned earlier, but the latest figures (2006) show that local radios (in the area where they exist at all) are serious competitors of nationwide commercial stations

The role of local radios was initially more significant in the areas not covered by nationwide commercial stations. According to the surveys by Szonda Ipsos, the time when local commercial radios were listened to on a national level by more people than nationwide commercial channels can be dated in early 2003 (see Figure 1).

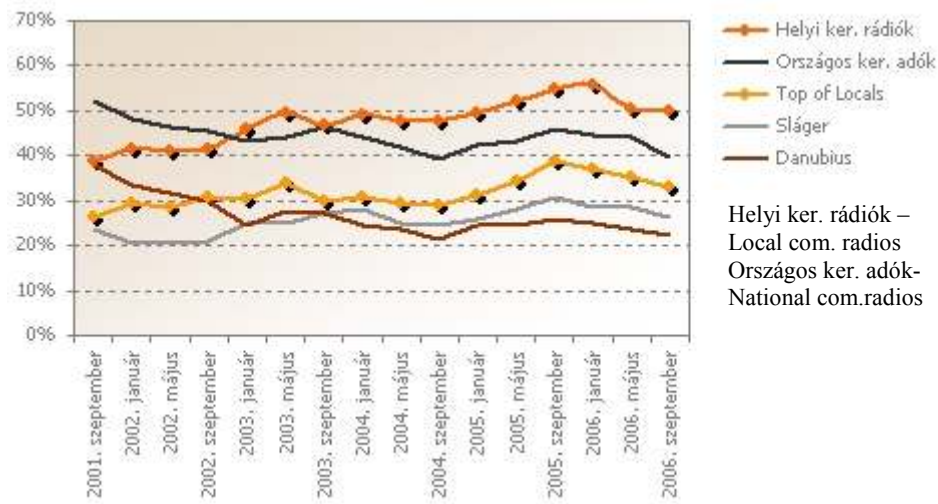


Figure 1. Listening tendencies of commercial radios
between September, 2001 and September, 2006

(Source: Szonda Ipsos - *GfK Hungaria Helyi Rádiós Kutatás*, Sept. 2006)

According to researches carried out in September, 2006, of the 19 counties of Hungary (Budapest considered to belong to Pest County), listeners aged 15-29 do not prefer local radios in 3 counties (Baranya, Nógrád és Veszprém) only.

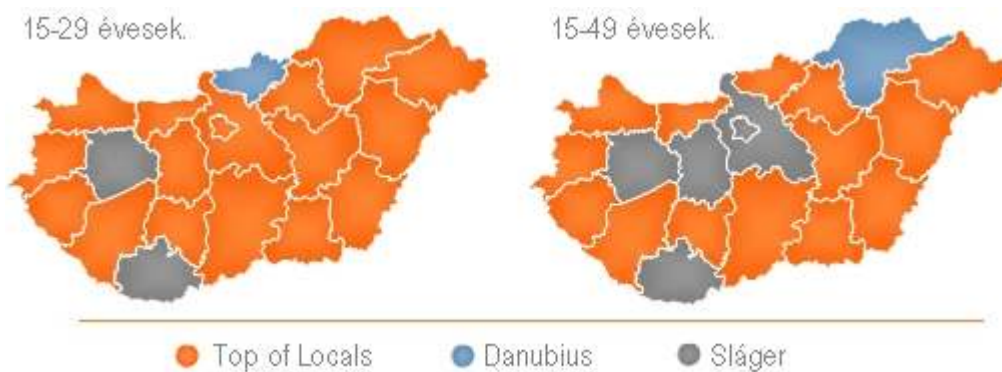


Figure 2. Listening index of local and national commercial radios
among listeners aged 15-29 and 15-43, sorted by counties

(Source: Szonda Ipsos - *GfK Hungaria Helyi Rádiós Kutatás*, Sept. 2006)

If we extend the age group, this number rises to five (Baranya, Veszprém, Fejér, Pest including Budapest and Borsod-Abaúj-Zemplén), which means that in the counties of Fejér, Pest and Borsod-Abaúj-Zemplén, a significant proportion of the middle-aged listen to a national commercial radio. In the case of Nógrád County, we find the opposite: younger people prefer Danubius, middle-aged listeners prefer local commercial radios (see Figure 2)

According to a public opinion poll, in county seats (as cities concentrating significant amount of the population) typically either a local or a national commercial radio is dominant. The local commercial radio has a convincing advantage in Kecskemét, Békéscsaba, Szeged, Debrecen, Eger, Szolnok, Tatabánya, Salgótarján, Kaposvár, Nyíregyháza and Szombathely. National commercial radios are preferred in Pécs, Miskolc, Budapest and Veszprém. Local and national media has an approximately equal proportion in Székesfehérvár, Győr, Szekszárd and Zalaegerszeg (see: Table 1).

Table 1. Rank of local and national commercial radios according to listening indexes among listeners aged 15-49 in January, May and September, 2006, sorted by county seats

City (county seat)	2006 January, local radio	2006 May, local radio	2006 September, local radio	2006 January, national commercial radio	2006 May, national commercial radio	2006 September, national commercial radio
Kecskemét	1	1	1	2	2	2
Pécs	2	2	2	1	1	1
Békéscsaba	1	1	1	2	2	2
Miskolc	2	2	2	1	1	1
Szeged	1	1	1	2	2	2
Székesfehérvár	1	2	1	2	1	2
Győr	1	2	1	2	1	2
Debrecen	1	1	1	2	2	2
Eger	1	1	1	2	2	2
Szolnok	1	1	1	2	2	2
Tatabánya	1	1	1	2	2	2
Salgótarján	1	1	1	2	2	2
Budapest	2	2	2	1	1	1
Kaposvár	1	1	1	2	2	2
Nyíregyháza	1	1	1	2	2	2
Szekszárd	2	1	1	1	2	2
Szombathely	1	1	1	2	2	2
Veszprém	2	2	2	1	1	1
Zalaegerszeg	1	2	1	2	1	2

(Source: Szonda Ipsos – based on *GfK Hungaria Helyi Rádiós Kutatás*, Sept. 2006.,
ed. by SZIGETHY E. 2007)

The History of Community Radio

Since the 1980s, the intellectual circles demanding media independent of central power have strengthened. Then cable television networks were allowed to broadcast their own TV programmes in Hungary. In this field, Hungary was ahead of several Western European countries. “Local community televisions” became owned by local councils, therefore, they were still the instruments of the current Powers, however, in their view, means, style, they began to differ from the central Hungarian Television.

In the European Charter of community / small community radios accepted in Ljubljana in 1994, the emphasis was moved towards regionalism and locality.

The aims and characteristics of community radio stations drawn up are:

- Promoting the right for free communication, facilitating the free flow of information and opinions, assisting creative ways of expression, supporting local talented creators, promoting local traditions;
- Aiming at having representatives of local, geographically identifiable communities having the same interests among their owners;
- Performing their editorial, programme political work independently of the government, commercial and religious institutions, as well as political parties;
- Providing accessibility for minority and peripheral groups, promoting and protecting the diversity of cultures and languages;
- Most of them are non-profit organisations.

In the radio structure evolved by the millennium, community radio has become insignificant. It is typical of domestic media system that only a very limited circle listens to community radios today, and commercial local broadcasters – with some rare exceptions – do not differ from their national or regional counterparts, i.e. they have not become the forums of local public life and information exchange. Recognising the importance of community radio (for the local population), the National Radio and Television Commission (ORTT) had the so-called *tendering system on small community radios* created.

According to the invitation for tender, the aim of small community radio is to make the operation of radios possible in small communities and settlements where a local radio cannot be operated profitably, but the local community would claim to have a radio station addressed

to them, and to make it possible for institution to satisfy the needs of a special audience through radio.

The programme plans, managing and financial plans presented at the tender must support that the tenderer's aim is to realise the operation of a small community radio. Tenderers are invited continuously; tenders can be handed in every half year. However, ORTT does not guarantee that the winner will actually have the possibility to broadcast, and even in that case, they will be able to make use of it, because in case of small communities, ORTT prescribed two very limiting technical parameters: power cannot be more than 10 watts, and the height of the antenna cannot be more than 30 metres.

In any case, the first small community radios started to operate in the autumn of 2004; some of them have a very small coverage area like 200 metres, even in mono. Some small community radios are connected to educational institutes, but some of them are owned by a single individual. It is clear, however, that demand for *small community radios* rises mainly in *communities* considered *small* in a *geographical sense*, and not in a place where people simply live together.

Regional Radio

Until the change of the political system, regional broadcasting only existed in the form of short regional radio broadcasts in county seats. Even Budapest, where radio (and television) broadcasting possibilities satisfying public and professional needs and providing free information gathering were also missing for a long time, was not an exception.

Contemporary regional radio is a modern segment of domestic radio history. Their programmes can be received in large areas and satisfy various needs of the listeners. As a fruit of the collaboration between the studios in Győr, Szombathely and Nagykanizsa that had broadcast their own independent programme earlier, the first regional radio, the Radio of the Western Transdanubian Region (Nyugat-dunántúli Régió Rádiója) of Hungarian Radio – seated in Győr – started its operation on the day of our EU accession. Regional programmes are also aimed at promoting the sense of regionalism. The local studios preserve their independence, but they prepare their news and magazine programmes intended for the whole region jointly.

Following that, the Southern and Northern Hungarian Regional Radios, and later the Southern Transdanubian Regional Radio were established. Regional broadcasts can be

received at medium frequency, and will gradually be transferred to FM, however, it is known that in the long run, digital medium frequency radio will dominate the future. However, in order to implement these plans, it is not enough to reconfigure transmitters, it is also necessary to have suitable receivers. By extending their broadcasting time, regional radios may familiarise people with the areas where Hungarians live abroad, like Csallóköz, Burgerland, Muravidék, Erdély and Dél-vidék (southland). And while preserving their independence (within Hungarian Radio), they prepare their news and magazine programmes intended for the whole region jointly.

According to the survey by Gallup Institute, people above the age of 14 listen to regional radios almost as much as to the most popular public radio (Kossuth) (see: Figure 3).

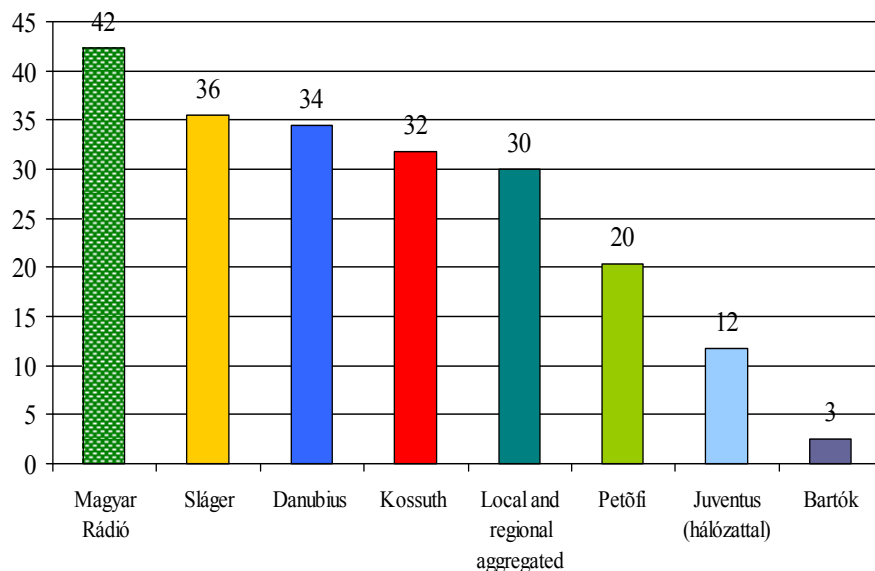


Figure 3. Audience aged over 14 of (regional) radios having nationwide coverage
(Source: GALLUP INTÉZET, 2004.)

Internet Radio

Radio program making and broadcasting were characterised by analogue technology until the late 1970s, computers were only used for supplementary purposes (e.g. wage accounting). However, the last decade of the 20th century saw a breakthrough in this field, too. Traditional magnetic tape is disappearing, vinyl LPs are virtually extinct, and digital radio

transmitters have appeared in terrestrial broadcasting, too. Satellites transmit both analogue and digital programmes, but the traditional radio using FM band has been complemented with new functions.

However, radio broadcasting have technical, generic and economic features that limit its competitiveness independently of the form of ownership.

1) One of these limitations is the main characteristics of radio, i.e. the fact that radio transmits neither readable texts, nor pictures. Of course, one may ask, if it is a great disadvantage, why has radio not ceased to exist, as a result of the effect of television? We can answer that, in a way, radio has deceased indeed, since in most cases, we only listen to it when we cannot watch TV – in a car, at work (though more and more people at home, too), etc. However, another answer may be that it was the technical simplicity of radio and, consequently, its widespread usage and speed that has saved radio. However, if it is the case, why do we want to convert radio into newspaper or television? What kind of role can text, still picture, animation, motion picture play in radio?

Radio is also required to inform its audience – at the same time (or independently) of the broadcasted programme – about who made the current programme, what the makers look like, what the programme is about, when the programme starts and finishes, etc. It is called programme magazine function. The creators of the programmes would also like to know the listeners' opinion of the programmes or their topics, and it would also be beneficial if listeners could get to know each other's opinions, too. It is called feedback function.

In the case of several programmes, the idea of selling them or other services of the radio may rise – why could we not extend commercial function? Finally, one may imagine services that have nothing to do with the radio or radio in general, they just make the radio more popular. For the sake of simplicity, I call it service providing function.

2) Another limit on radio broadcasting is the limited number of telecommunicational possibilities for broadcasting. This limit is rather a restriction by the authorities – legislators like to make people believe that the number of usable frequencies is very limited – but there are also real technical limits, too. Although satellite and cable transmission have loosened these restrictions, especially satellite broadcasting is very expensive and cannot be afforded by a smaller radio. However, it may be possible that a small radio station wants to address people outside its village, as well.

In the early 1990s, at the dawn of worldwide web, there were only a few people who thought that the Internet will find a solution for this problem. Interestingly, though the domestic media law accepted at the end of 1995 does not even mention the Internet, an alternative version of this law drafted in 1990 – though unnamed, as the web did not exist at that time – includes this possibility.

Internet radio required two technical innovations. One is the digital audio format the size of which is much smaller than what is used on CDs, as the capacity of servers is limited and the upload of audio files is also time-consuming. The other problem to be solved was the unbroken transmission and play of live programmes through the Internet. The two problems had two theoretic solutions (unfortunately, there were much more practical ones), and these two approaches begin to come closer to each other nowadays. The reasons for the two approaches is that it must be made possible for live programmes to be played through telephone line, since a significant proportion of Internet users connect the Net through a simple telephone network, and playability is more important than sound quality. However, in the case of archive audio files, their download depends on users' patience (and money). In the former case, live programmes cannot be repeated, as they are deleted from users' computer during play, but in the latter case the downloaded, good quality programme item can be played and even copied by users unlimited times. In both cases, sound is compressed, which means that parts that are "less important" concerning recognition are cut out of the digital string. It is worth mentioning that pictures and videos are also compressed, because usually Internet surfers cannot wait if a site is downloaded for several minutes.

For radio service providers, the sound quality of internet radio service is highly important, since, as it is also shown by the maps of coverage, internet radio is a possible source of information in a significant part of the country.

One of the main features of the diversity found on the Internet is that the content provided by professionals hardly differs from the products of enthusiastic amateurs, and all possible instruments of mass communication and telecommunication are used.

In my dissertation, I analysed the websites of organisations playing a determining role in Hungarian media and mass communication (Hírközlési Felügyelet-HIF, Országos Rádió és Televízió Testület-ORTT, Magyar Távirati Iroda-MTI, Szabad Rádiók Magyarországi Szervezete). My experience is that while commercial radios have reacted on the changed situation (Internet serving as a device transmitting programmes) quickly, the whole Internet activity of Hungarian Radio is ambiguous. The potentials of Internet were first discovered in the case of foreign broadcast, as oversea listeners could easily access the Internet. One of the

obstacles of internet activity was the alarming conditions of IT facilities at Hungarian Radio. 80% of its computers were out-of-date, totally incapable or just limitedly capable for internet work. Several editorial offices did not have a single computer. Internal network was also out-of-date, and external connection was so slow that the homepage of Hungarian Radio (www.radio.hu) was inaccessible most of the time.

The homepage of Hungarian Radio was developed and is maintained by the Department of Electron Devices of the Budapest University of Technology and Economics (BME). BME also operates the servers that broadcast live RealAudio programmes. The university receives the programmes of Hungarian Radio with radio sets, consequently, the programme of Radio Kossuth buzzes and is hard to understand. However, the significance of RealAudio broadcast is only symbolic, because the maximum number of computers that can receive its transmission at the same time is only 60.

In conclusion, we can state that Hungarian Radio got into a vicious circle when it reacted the challenges of market only slowly and with difficulties, it has lost a significant part of its audience (especially people of the younger generations, but today even those of the older ones, as well), therefore its incomes (primarily advertisement) have been constantly decreasing, too. In the present situation, Hungarian Radio seems to have given up the hope that its programmes may show an example for both the professional field and all those who are looking for the values of lifestyle that make their integration and prosperity easier and more humane. The listening index of commercial radios fluctuate month by month, but the age composition of their listeners is stable. On an average day, only one of the three channels of public radio can keep pace with commercial radios (Figure 4), mainly owing to its regular news programmes (Figure 5).

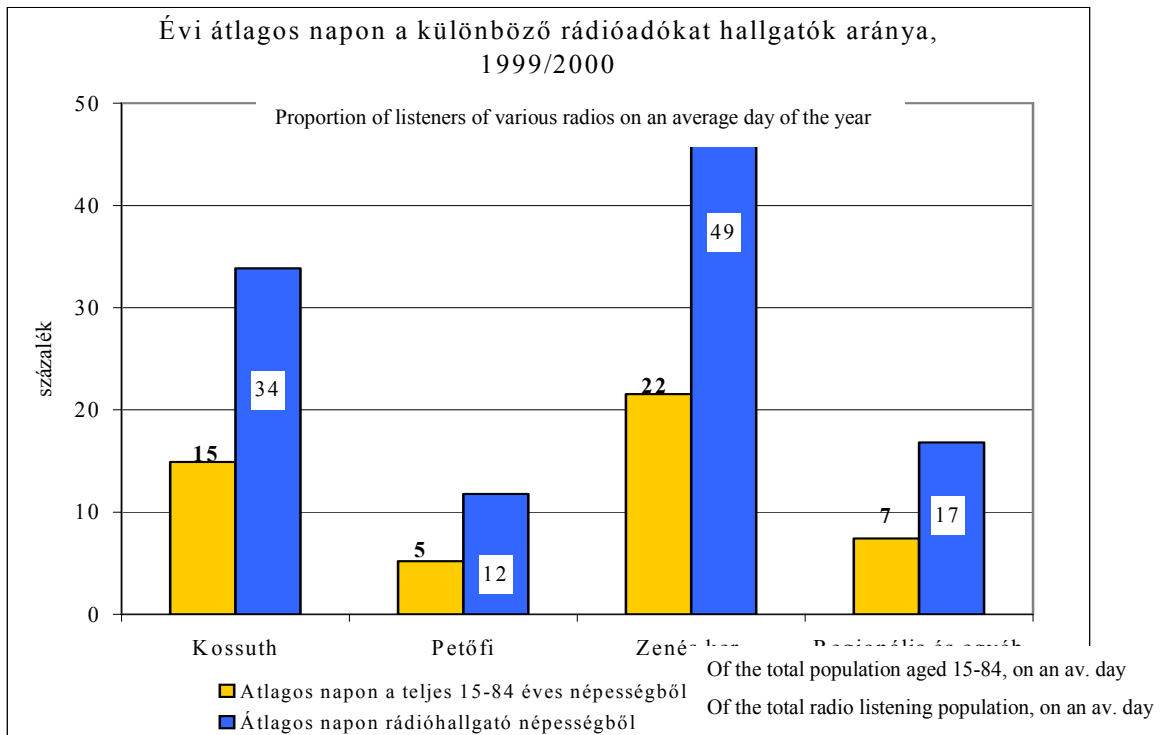


Figure 4. The proportion of listeners of various radios
(Source: KSH, 2004)

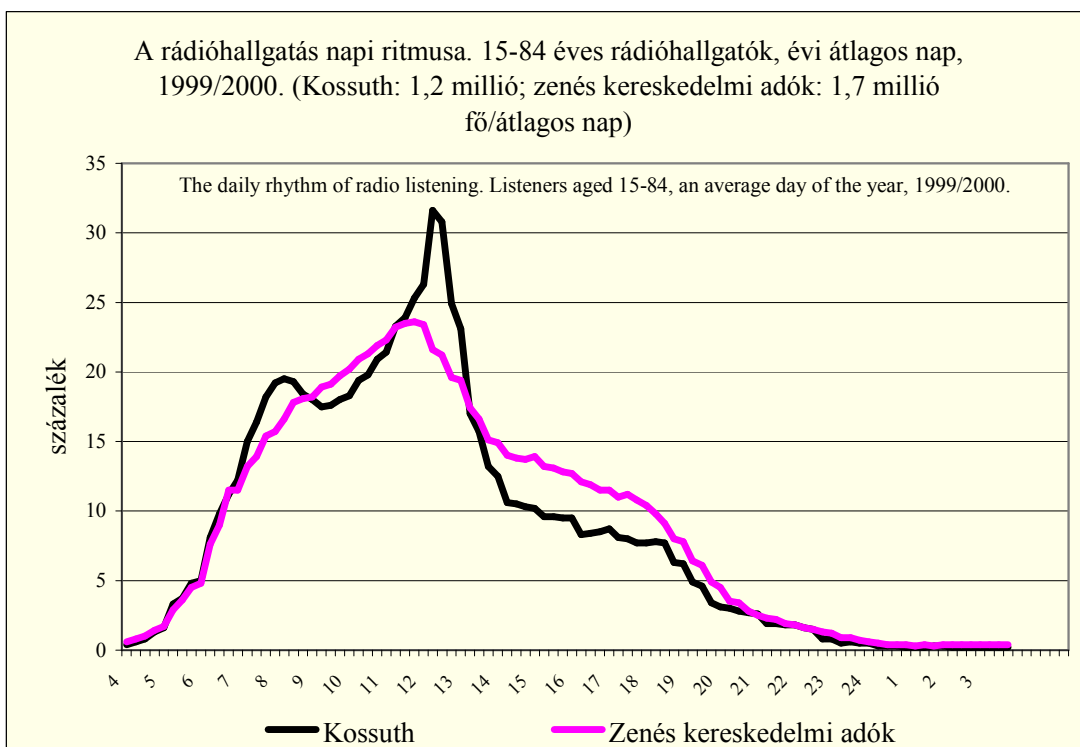


Figure 5. The average daily rhythm of radio listening by people aged 15-84, 1999/2000
(Source: KSH, 2004)

We must find those opportunities that may promote the cultural and educational development of Hungarian Radio, the programme making that preserves and creates values, the radio that meets the requirements of listeners of various ages.

Studying radio, I have found that technical devices have continuously been improving since the beginning of radio until today, legislators continuously react on the development of radio, on social, economic and political changes, new regulations and laws are born, but they do not facilitate, but only regulate the foundation and operation of a new radio.

6. POSSIBILITIES TO EXPLOIT THE RESEARCH RESULTS AND FURTHER DIRECTIONS OF RESEARCH

In the present dissertation, I examined radio in its environmental, social, technical, economical context and the listening habits of its audience. These results can be used in a broader and narrower sense in the fields of radio that aim at the wide usage of digital technology, radio manufacture and the increase of listening index.

On the basis of the analyses, we can ascertain that researches can only produce further results if legislators set the present tri-polar system of media on new fundamentals by changing the media law. It is especially important in the case of public media, as this law requires unrealisable obligations from programme makers, it formulates obligatory restrictions, but in case of the violation of law (primarily in case of public media), besides certain malpractices in programme making, it does not mention sanctions, furthermore, does not provide solution for the financing of public media.

It is necessary to carry out further comprehensive researches into public, local, community, regional and internet radio listening and programme making habits, as well as into the expansion of digital technology.

It is a question that, in the field of the preservation of national traditions and values, culture and education, which type of radio (television) can preserve and convey national treasures, linguistic culture, rural culture, the traditions of ethnic groups, etc.? Public radio (and televisions), for which all of these are fundamental duties, but which have a constantly declining audience, or commercial channels lacking high standards and values? Or perhaps (intimate) local, small community radio (television) stations? All of these are to be analysed.

The diversity of media market is a challenge not only for owners and programme makers, but also for radio listeners, TV watchers and newspaper readers.

Future expectations project that, instead of traditional broadcasting, listeners will want to compile their own individual programmes, i.e. every people select the programmes they like the most from a list recorded, purchased or borrowed by them. However, besides the models of *suppliers* and *self-suppliers*, a third one is already present, provided by the system of programme identification (PI). It is a new aspect of digital technics, which theoretically provides listeners with complete freedom of choice between the given channels. Today people can choose between several channels, but after the general introduction of digital technics, all of these will be sent to the listener, viewer or reader through a single channel (like the Internet today). Nowadays programme making companies already know what opportunities may be created by the emergence of this system. And this system may create the balance / compromise between broadcasting and individual consumption. However, even it is not a cure-all and above all, it is not created by itself, similarly to the Internet and digital technics, the application of which demands much from programme makers, especially in the case of public media, because other channels deal with the preservation and creation of values and traditions, the maintenance of the culture of the Hungarian language, etc. only accidentally, which is (or at least should be) one of their main duties.

New actors, new service providers have emerged in the world of domestic media. There are more radios broadcasting at the CCIR frequency band introduced in radio.

The general tendencies of previous years have been continuously going on, younger generations almost exclusively listen to commercial radio stations, the audience of public radio is constantly declining.

1996 data already revealed that public radio cannot maintain its position so far if it does not change its programme policy immediately, does not eliminate the extremist tone of some of its programmes.

Since the middle of the 1990s, local radios (and televisions) in the countryside have been growing significantly, but several new stations have been established in the capital, too. Most of them have mixed profiles, besides public service functions, they perform advertising activities, too.

On 1 December, 1995, an experimental digital radio station around Budapest (DAB) was among the first ones to operate. It was a broadcasting system that provided the pleasant advantages of digital technics, CD quality sound on radio.

Considering all these, it would be advisable for experts of communication, radio owners and managers, programme makers to think over and replan their programme policy, programme making principles on the basis of the present research results, primarily for the

sake of the audience. Legislators should contemplate the revision of media law on the basis of the shortages mentioned in the present dissertation, and require obligations that media can meet in practice. Furthermore, they should make generally binding decisions on the operation of all written and electronic media. The inclusion of an observable ethical code in them is necessary.

For radios, the usage of the Internet and digital technology is not just a source of information, but a means of telecommunication on which if they do not appear widely, a lot of radios (and televisions) may terminate their operation soon. It is not a compulsion, but the realm of telecommunicational freedom. The question is what level of the audience's need the present and future high technology of radio will remain at. It is also a big question of the future.

7. PUBLICATIONS ON THE SUBJECT OF THE DISSERTATION

I. Publications serving as basis of the dissertation

- **SZIGETHY E.** Közzolgálati oktatás, képzés. Tudásmenedzsment (közlésre elfogadva) 11 p.
- **SZIGETHY E.** Community Radios in Hungary The Sound of Radios. Modern Geográfia (közlésre elfogadva)
- **SZIGETHY E.** Oktatás és tömegkommunikáció. Tér és Társadalom (közlésre elfogadva) 5 p.
- **SZIGETHY E.** A kommunikáció földrajzi aspektusai. Földrajzi Értesítő (közlésre elfogadva) 16 p.
- **SZIGETHY E.** 2007. Environment and Earth Sciences in Communication and Media. Carpathian Journal of Earth and Environmental Sciences, Volume 2, - Number 1. pp. 1-6.
- **SZIGETHY E.** 2007. Kommunikációs kézikönyv. Ma-Stúdió, Budapest, 56 p.
- **SZIGETHY E.** 2006. A sajtó nyelve, műfajelméleti tudnivalók. Ma-Stúdió, Budapest, 22 p.
- **SZIGETHY E.** 2004. A rádiózás története. Valóság, 2004/1. pp 71-80.
- **SZIGETHY E.** (szerk.) 2004. Közösségi rádiózás. Magyar Rádió Kiadó, Budapest, 120 p.
- **SZIGETHY E.** (szerk.) 2004. Internetes rádiózás. Magyar Rádió Kiadó, Budapest, 115 p.
- **SZIGETHY E.** (szerk.) 2003. Rádiós hangtechnikai ismeretek. Magyar Rádió Kiadó, Budapest, 271 p.
- **SZIGETHY E.** 2003. Kisközösségi rádiózás – kézirat. Budapest, (Készült dr. Hidy Péter munkacsoportja tagjaként) 56 p.
- **SZIGETHY E.** (szerk.) 2002. Médiaműfajok. Magyar Rádió Kiadó, Budapest, 357 p.
- **SZIGETHY E.** (szerk.) 2002. Médianorma. Magyar Rádió Kiadó, Budapest, 135 p.
- **SZIGETHY E.** (szerk.) 2002. Kommunikáció- és médiaismeret I-II. (Szöveggyűjtemény) Magyar Rádió Kiadó, Budapest, 216 p. ill. 196 p.

II. Lectures serving as basis of the dissertation

- **SZIGETHY E.** 1996-2005. Közzolgálati, kereskedelmi és közösségi műsorok a kultúra, az oktatás tükrében (előadássorozat), Rátkay Klub
- **SZIGETHY E. – NEMESKÉRI ZS.** 2004. Közzolgálat és média, manipulatív eszközök. Nyíregyházi Tanárképző Főiskola, Nyíregyháza

III. Other publications

- **SZIGETHY E.** A média és az iskola kapcsolata – a Magyar Rádió és az oktatás Új Pedagógiai Szemle (közlésre elfogadva) 6 p.
- **SZIGETHY E.** (szerk.) A Magyar Rádió IV. Anyanyelvi Konferenciájának Tanulmánykötete (megjelenés alatt)
- **SZIGETHY E.** 2004. A győri egyetem és regionális befolyása. Tér és Társadalom 2004/2. pp 167-168.

IV. Other lectures

- **SZIGETHY E.** 2003. A Magyar Rádió, benne a magyar médiumok oktatási tevékenysége. EBU (Európai Közműsorszolgáltatók Nemzetközi Konferenciája), Európa Parlament, Strassbourg