

Secțiunea 7: TEHNOLOGII INFORMAȚIONALE ȘI CIBERNETICĂ ECONOMICĂ

THE EVOLUTION OF THE AUDIOVISUAL SERVICES MARKET AND THE SOCIAL IMPACT OF THE IMPLEMENTATION OF DIGITAL TELEVISION IN THE REPUBLIC OF MOLDOVA

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Abstract. The actuality of the paper is determined by the infrastructural transformations in the field of electronic communications in the Republic of Moldova in recent years and the implementation at national level of the digital terrestrial radio and TV transmission system. The purpose of the paper is to study the current situation and problems in the digital audiovisual services market, as well as the social impact of the transition to digital terrestrial television. As a research method, the statistical analysis of factual data from public sources of information and government statistical reports is used. Based on the research results, some recommendations are formulated for solving the revealed problems.

Key words: digital, television, audiovisual, market, current state

JEL CLASSIFICATION: L820, L860

INTRODUCTION

The development of telecommunications technologies in the 2000s highlighted the problem of acute lack of free frequencies in the electromagnetic spectrum reserved for electronic communications services. In order to expand the technical possibilities for the promotion of audiovisual services, the International Telecommunication Union (ITU) has developed series of documents regulating the gradual transition from analogue terrestrial television to digital terrestrial television.

The implementation of digital terrestrial television in the Republic of Moldova was conditioned by the decisions of the Regional Radiocommunication Conference (RRC-06, Geneva, 2006) [1], which set the deadline of June 17, 2015 for the cessation of conventional analog transmissions (STAC) in the frequency bands 174-230 MHz and 470-862 MHz. After this date, the analogue TV channels no longer benefit from protection in case of disturbances caused by the digital format TV channels. Moreover, in the event of the creation of disturbances from analogue TV channels to digital TV channels, analogue TV channels were to be closed. This responsibility has been assumed by 104 countries, including the Republic of Moldova. The final documents of RRC-06 were ratified by Law no. 69-XVI of March 27, 2008 [2].

The first decision in which the issue of transition materializes and tasks are assigned to ministries and other institutions was the decision of the Government of the Republic of Moldova No. 240 of 08 May 2015 [3]. The decision establishes the creation of national multiplexes A and B UHF by SE "Radiocommunications" and sets a new deadline for the completion of the transition to digital terrestrial television - December 31, 2017. Subsequently, the deadline is postponed until March 1, 2020.

The decision mentions that according to the data of the 2004 Population Census in the Republic of Moldova there are approximately 1,131,800 households made up of 3,356,900 people. More than half of the number of households are in rural areas. According to the Report "Use of information and communication technologies by the population of the Republic of Moldova" for 2009, prepared by "Magenta Consulting" SRL within the United Nations Development Program, Project "Building e-Government in the Republic of Moldova-2", approx. 95% of households had functional TVs. But the vast majority of these devices were not able to receive the digital terrestrial television signal and

needed a DVB-T2 receiver. It was also necessary to modernize the equipment in the blocks where collective reception systems were used (about 36,040 subscribers).

The total number of households, which received analogue terrestrial television programs (with individual, block or room antenna), in 2015 amounted to approximately 793079 (or 70.07% of the total number of households). The number of households connected to cable television, IPTV or satellite was equal to 282131 (24.93% of the total number of households) [3].

In 2015, in the Republic of Moldova there were 3 analogue terrestrial television networks with national coverage, managed by SE "Radiocommunications", 34 TV studios that offered program services broadcast through terrestrial channels; 27 TV studios with cable program services and 9 TV studios with satellite program services. At the beginning of 2020, 46 economic agents were active on the market of pay-tv services [5].

MATERIAL AND METHOD

The paper analyzes the statistical data regarding the evolution of audiovisual services and the implementation of digital television in the Republic of Moldova during 2015-2019. For this purpose, the official statistical data, provided by The National Regulatory Agency for Electronic Communications and Information Technology (ANRCETI), disposed on the official website of the agency (<https://www.anrceti.md>) under form of annual statistical reports, are analyzed. Also, series of macroeconomic indicators were used, published on the official website of the National Bureau of Statistics of the Republic of Moldova (<http://statistica.gov.md>). The comparative analysis of the data was performed using the mathematical and computer tools for statistical analysis of the data sets, and the results are presented in graphical form.

RESULTS AND DISCUSSIONS

According to statistical data provided by The National Regulatory Agency for Electronic Communications and Information Technology (ANRCETI) [4] the total volume of revenues from the provision of audiovisual services in 2019 amounted to 298.6 million lei, which represents an increase of almost 20%, compared to 2018 (Fig.1). But the average monthly revenue per user (ARPU) of pay-tv service providers decreased by 6.5% and amounted to 39.1 lei.

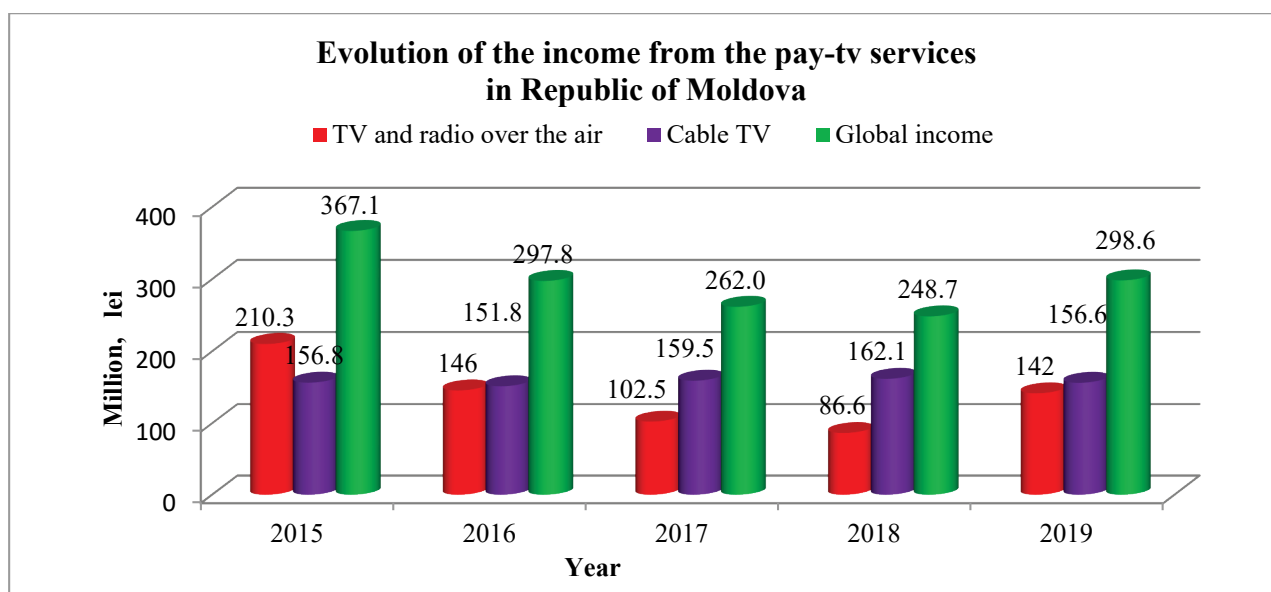


Fig.1 Evolution of the income from the pay-tv services in Republic of Moldova [4]

The most important shares on the market of paid TV services, depending on the turnover, were held by JSC "Moldtelecom" of 38.2%, LLC "Sun Communications" - 15.8%, LLC "TV-Box" - 16.4%. The rest of the suppliers registered a cumulative share of 29.6% [4].

The evolution of the number of subscribers to pay-tv services is represented in Fig.2. The number of subscribers totaled 335.4 thousand in 2019, and the penetration rate of these services, compared to 100 households, amounted to 37.5%. There is a slight positive trend in the evolution of this indicator over the last 3 years

Of the total number of subscribers to pay-tv services, depending on the reception technology, 154.9 thousand (46.2%) are subscribers of cable TV networks, and 180.5 thousand (52.8%) - of services IPTV [4]. The share of subscribers to pay-tv services in digital format reached 71.6% in 2019, the remaining 28.4% of subscribers receiving the TV signal in analog format [4].

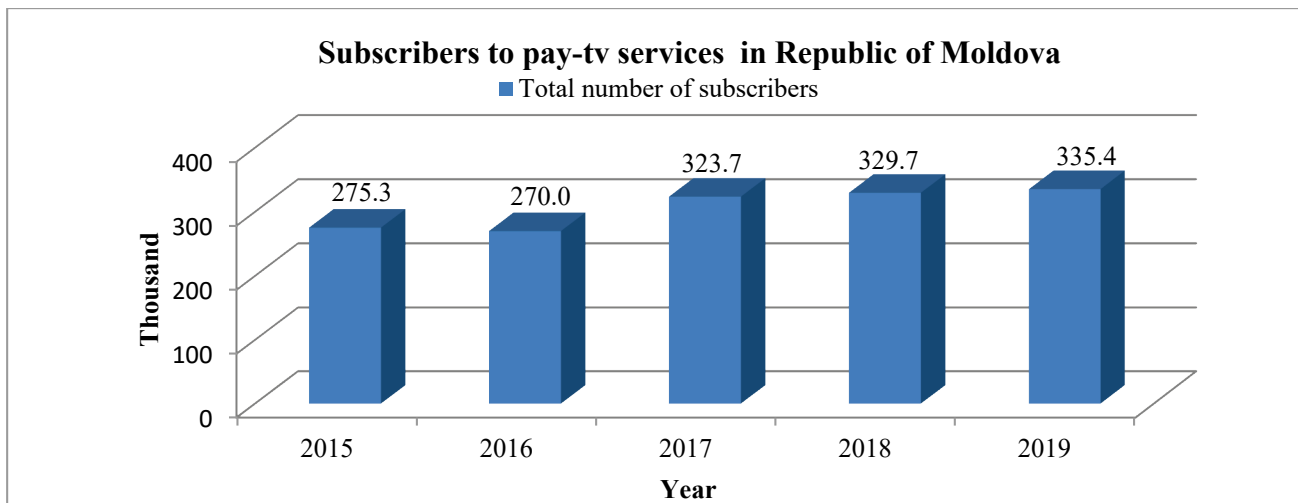


Fig.2 Evolution of the number of subscribers to pay-tv services in Republic of Moldova [4]

At the beginning of 2020, 46 economic agents were active on the market of pay-tv services, most of them offering access to TV signal in analog format. The main provider of pay-tv services in digital format is Orange Moldova (48473 subscribers). The IP-TV service is mainly provided by the companies TV-BOX (114310 subscribers) and Moldtelecom (73353 subscribers). Sun Communications simultaneously provides analog and digital TV signal to 15,483 subscribers. Leaders in the market for pay-tv services in analog format are the companies Sun Communications (23348 subscribers) and TV-SAT (22519 subscribers). Together, these 5 companies hold a 90.2% share of the paid TV services market, led by TV-BOX (34.7%), followed by Moldtelecom (21.9%), Orange Moldova (14.5%), Sun Communications (11.6%) and TV-SAT (7.5%) [5]. It should be mentioned that since 2016 the company Orange Moldova has acquired the company Sun Communications and de facto controls 26.1% of the market for pay-tv services.

CONCLUSIONS

Analyzing the evolution of the market for pay-tv services, we can see that this market is disturbed by the upward development of the Internet access services market and the consumer orientation towards online consumption of multimedia content, which decreased the annual global revenues of service providers from 367.1 million lei (2015) up to 262.0 million lei (2017). However, over the last three years there has been an increase in consumer interest in digital TV services, which has led to a slightly positive trend in the evolution of annual revenues of pay-tv service providers. Also, the number of subscribers to these services increased in the first three months of 2020, reaching **346.7** thousand, and the penetration rate of paid TV services became **38.8%**. The average monthly income per user (ARPU) increased from 39.1 lei to 45.0 lei [5].

The final transition to digital television over the air in the DVB-T2 standard will take place until the end of 2020, when the transmission of analogue TV signal will be stopped. At the middle of 2020, the coverage of the territory of the Republic of Moldova with digital TV signal is 97%.

At present, the first digital multiplex with national coverage is broadcasting on the territory of the Republic of Moldova, intended only for the retransmission of local TV channels. This multiplex broadcast 11 channels (out of 14 possible channels). Citizens who do not have a TV compatible with the DVB-T2 standard (with built-in receiver) or an STB (set-top-box) cannot receive digital terrestrial television programs.

Thus, **61.2%** of households in the Republic of Moldova do not have access to cable TV or IP-TV signal and receive TV signal over the air. Compared to the number of existing households in the Republic of Moldova, this share indicates that about **692,000** households have to solve the problem of switching to digital television either by connecting to cable or IP-TV services, or by purchasing a DVB-2 set (receiver + antenna).

According to the data placed on the Web page of the State Enterprise "Radiocomunicații" (www.radiocom.md) the minimal cost of a DVB-2 set is 498 lei (110 lei antenna + 388 lei receiver). A simple calculation demonstrates that the full insurance of the population with digital TV signal over the air requires an investment of about **346 million lei** from the owners.

The cost of the cheapest monthly IP-TV subscription with 91 TV channels from Moldtelecom is 95 lei (www.moldtelecom.md, September 2020). The cheapest monthly subscription with 100 digital channels from Orange Moldova is 80 lei (www.orange.md, September 2020). Connecting the 692,000 households to TV services would allow a minimal growth in the global annual income of TV service providers by about **660-780 million lei**, ensuring a 200-300% growth in turnover.

But not all families in the Republic of Moldova have the financial opportunity to connect to pay-tv services. For these families, the only alternative to accessing public information remains digital television over the air. From the financial sources of the Government of the Republic of Moldova were purchased and distributed only **8,922** converters, based on the lists of requests prepared by territorial structures of social assistance. The number of beneficiary families is only about **17 percent** of the total of **51,782** potential beneficiaries and this, according to the situation 2 years ago. [6]. The solution of this problem in the shortest possible time must become a prerogative for the Government of the Republic of Moldova.

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