



THE RELATIONSHIP BETWEEN TORRENTING AND STREAMING SERVICES

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Abstract

The basic question of this research is for what reason and in what proportion Hungarian users choose torrenting, streaming, or possibly both methods to access online content. An important question is also what advantages and disadvantages are attributed to different content access options, but the research also provides information regarding consumption services related to different content (films, series, music and games). On the one hand, the research presents the relationship between torrent and streaming services in the Hungarian online marketplace, as well as a general survey of the market reorganization between torrent users and streaming service users. According to the traditional procedure, after the secondary research, the survey continued with qualitative and then quantitative research, mainly in relation to persons between the ages of 18-30. During the qualitative research, the interviews were conducted one by one. The questionnaire contained two types of questions, one focused on those who chose the streaming service, and the other on those who chose torrenting. The quantitative research was done using the Google system. The main topics of the questions focused on the consumption of different contents and the assessment of advantages and disadvantages. The research revealed that the respondents in Hungary consider streaming services to be overpriced, and in this context, they are not satisfied with the price of the service and, in this context, with the range. The majority of respondents do not use streaming services for music. HBO Go is the most used online service for watching movies and series, presumably because of its distribution linked to the TV service. In the gaming industry, Steam's service enjoys outstanding support among consumers, but it can be observed that new entrants can easily gain a lot of recognition in this sector. The respondents see torrenting as a kind of guarantee before buying, as they can try the given product, on the basis of which they can decide whether the purchase is worth it for them. This research provides a kind of basis in the future, so that the streaming service market can more easily adapt to Hungarian market conditions through other research, so that the needs of domestic consumers can be served more easily.

KEYWORDS: torrenting, streaming services, online content service, consumer preferences.

Introduction

Online shopping is gaining more and more ground in the world. Entertainment products such as movies, music, and games are now very easily accessible via the Internet, but of course alternative access to products can also be observed in this market segment. Torrenting is a particular type of illegal downloading. It is peculiar, because on the one hand it is technologically good, because it is suitable for moving large files (large amounts of data), on the other hand, it is bad, because it can be used to distribute copyrighted content illegally. In and of itself, the above, as well as the novelty of the topic and its potential, provide enough motivation for the creation of a study. The main goal of this thesis is to present the relationship between torrent and streaming services in the Hungarian online market, and to examine the development of general consumption habits on these platforms with a non-representative survey. The survey primarily examines the consumption habits of the 18- to 30-year-old age group, as this age group uses these services the most (Habók, 2017). One of the objectives of the thesis is therefore to provide insight into the film, music, and game industries (in the case of the latter, streaming is not yet fully available, but due to the size of the sector and its online sales, it is necessary to take it into account), which are the most popular service providers on the Hungarian market. The thesis also wants to present what the interviewees consider advantageous or disadvantageous when shopping online or torrenting. One of the assumptions of the research is that consumers

of online content - especially domestic ones - are price sensitive, but at the same time, the COVID closures increased the interest and demand for online content, especially in the young age group. However, all of this allows us to preliminarily conclude that this topic - in addition to being rather foreign to some age groups - is also very immature, and that it is still taking shape within the framework today. It is very difficult to predict future trends, but the study will also attempt to do so.

Literature review

The torrenting is when, with the help of a so-called client program, parts of the digitally cut software or content are downloaded to the given machine from the fastest access source. The bandwidth of the server is of decisive importance for downloads, so the files are transmitted in pieces, with the help of one or more machines. The more machines that share the pieces of the file, the faster the download. Uploading, re-uploading or sharing copyrighted files is considered a crime in our country (Ibolya, 2011/2). The environment can have a significant incentive effect on a person's piracy habits, even if the person is morally neutral about piracy. Such an effect can be, for example, the desire to belong to a reference group. It is also necessary to consider the extent to which the given person estimates the value of the given product, the chance of being exposed, and the extent of the given punishment (Doktor, 2016). In recent years, more and more people are choosing streaming services instead of downloading movies, music, and games "for free". During streaming, the data of the given content,

film, and music are transmitted in compressed form and in packets via the Internet to the user's media device, thereby enabling immediate viewing and consumption of the given content. Previously, the given content could only be viewed, files could only be opened when the entire data set was transferred to the user's computer. Streaming services allow users unlimited browsing of their offerings for a fixed monthly fee, just like in the case of cable television. The disadvantage of streaming services compared to torrenting is that torrenting is "free" and has a larger offer than individual service sites. Streaming services, on the other hand, can compensate for this disadvantage with convenient, simple use, and with the fact that the "system" can also recommend other programs to the consumer, considering consumption habits.

In the traditional television service, the programs and advertisements are compiled according to a predetermined schedule, connecting the producer with the consumer and the advertising agencies. Streaming services are a distribution channel that specializes in the attention of individual consumers and does not just segment consumers as a large group. In addition, manufacturers can reach consumers directly, and the scope of advertising opportunities also expands in this area. The latter services can be classified into four main business models:

- Corporate subscription networks that also have their own programs (this includes, for example, Netflix, HBO, or Amazon). These providers can make themselves independent from the bigger brands due to their own productions, but the translation into different languages is slow.

- Service providers supported by "corporate" advertising finance their operations from advertising (Spotify's "freemium" service can also be classified here as an example). For these providers, it is a big challenge for providers to stay competitive with linear television service in terms of quality in terms of choice. They don't have the influence of a traditional television service and they don't have the social influence that YouTube has.

- The third type is the "multi-channel" network, such as the previously mentioned YouTube. Such services have many creators and viewers can also support individual content producers, but these providers "shop themselves" to different content producers.

- The last type includes independent, i.e., "indie" service providers. The financing of these is the most difficult since content producers only earn income from consumer subsidies. "Indie" services can be very diverse, or subscription-based, but their activity can even be based on crowdfunding. These services are easy to start, but as easily as they can start, they can disappear just as quickly due to financing problems (Jean, 2015).

With the spread of the Internet and the service options available on this platform, it is now possible to respond flexibly and across national borders to emerging needs. Although the start of the streaming service encountered obstacles at first, as the data transmission speed was lower than the playback speed, the monthly fee was still affordable, the service could be tried out for free, the offer could be viewed by the consumer at any time, so that there was no need to adapt to the service provider. As

a result of such services, the number of cable television subscriptions in the USA began to decline in the 2000s. Noticing this decline, the television companies introduced the OTT, i.e. "Over The Top" media system, which, in addition to the traditional cable TV service, offers the consumer the opportunity to, for example, rent movies within the video library of the given service provider. Multichannel television program distribution providers, i.e. MVPDs ("multichannel video programming distributor"), which already transmit the content of their channels on the Internet, and in addition, the given program can only be viewed at a given moment. The advantage of MVPDs over traditional cable television services is that consumers are not forced to choose between pre-assembled channel packages but can choose which channels to subscribe to according to their own needs. In parallel with MVPD, service providers that are only available on the Internet have spread, these service providers allow access to only one channel or the channels of a company group, such as HBO Go. (Pintér et al., 2016) In a 2016 research survey carried out by Internet researcher eNET in Hungary, it was found that 86.4% of Hungarian Internet users watch some video content on the Internet, and 33% of Internet users use torrenting once a month. The three most important requirements for the given service were revealed: the programs must have Hungarian dubbing or subtitles; the service must have a wide range of programs and be free of advertising. Before the launch of Netflix in Hungary in 2016, several service providers already competed on the streaming market. Those surveyed mostly used the service of RTL Most, followed by HBO and Digi Online, lagging behind to a large extent. When Netflix entered the market in 2016, according to the research, its awareness was already 28.5%. This relatively high degree of recognition was achieved without the service being supported by any advertising campaign (Pintér et al., 2016).

At the beginning of the technological evolution of the music industry, radio was designed to serve the needs of the masses, unlike the service model of today's mediums, and it targeted little or no individual consumers. In 1981, the first television channel presenting music was launched under the name of MTV, with the appearance of which, in the 1980s, music marketing and music video production became a separate business. At the same time, after the cassette era, digitization began with the spread of the CD. Since the 2000s, the number of CD sales has continuously decreased, and although radio is still an important factor, the industry has moved to the Internet to a certain extent, as radio channels that can be listened to on the Internet and application-based services have appeared (Rooij, 2016). As the music industry went online, piracy also modernized. The British Phonographic According to an Industry survey conducted in 2012, 60% of music downloads are done illegally. This ratio represents approximately 345 million music tracks in the first half of 2012 alone (Taylor, 2013). In addition, the files were quickly and cheaply transferred to the individual devices, so the publishers' suffered damages in several ways. The first file sharing service that caused serious problems for the music industry was "Napster". By December 1999, this service already had one million

users in half a year. The essence of the model was that it was enough for a user to buy the given album, which he then uploaded to this site, thus opening the possibility for other members to access the music without paying for it. Of course, there were also problems with the later streaming services, for example, Spotify repeatedly did not pay the royalties to the artists, who thus suffered a loss of income in the same way as if they had just downloaded their tracks. The business model of Spotify (and other similar services such as Grooves-hark, Pandora, Deezer) is the "freemium" model. In addition to the free version, there is also a paid version of the service, which allows access for a monthly fee, but in return, the service is free of advertisements. In addition to the maintenance of the service, royalties are also paid from the income of both the "freemium" and the paid service. The new form of service, streaming, can improve the status of the music industry compared to torrenting, if interests are clarified between content producers, distributors and consumers (Rooij, 2016).

In the online space, we can also talk about openly available torrent sites (such as The Pirate Bay, or Kickass Torrents), which can be accessed by anyone without registration, although users have switched to closed, invite-only networks to protect themselves and their computers. There are networks that have been formed locally, on a linguistic basis, according to a theme or a combination of these. An example of this is Ncore, which requires users to upload content for others as support after downloading. In the case of torrenting, the power of fresh public films is strongly decisive in a part of the offer, but at the same time, according to a 2011 research, online black markets are more of a gap-filling nature than a substitute. Furthermore, it was also revealed that the films belonging to the strata genres appear as a kind of archive on the file-sharing sites, so the torrent site forms a kind of transition between video rental and online movie watching. It can also be observed that since torrent sites contain several genres, individual consumers have the opportunity to start experimenting and can look into other film genres as well (Bodó et al., 2011). Free file sharing procedures have forced service providers to appear online at all. The Recording Industry Based on a 2014 survey by the Association of America, it appears that between 2004 and 2010, a 34% drop in revenues was observed in the music industry. In fact, we cannot even speak of a decline since the income was invested in technological change. One of the positive benefits of this is that the consumer no longer needs to buy tracks from the album that he does not like, thereby reducing the chance that the consumer will choose the pirated version (Doktor, 2016). Torrent sites can also serve as an archive for certain products, and the downloaded product can also serve as a kind of product sample, which can also have an incentive effect by making the consumer buy the given product. Of course, in the case of larger, more famous performers, the effect is smaller, since their own reputation also has a sufficient stimulating effect on consumers. Free access mainly helps smaller, still emerging creators, but it is only functional in relation to the music industry, as the connected services are able to make up for the loss of income from downloads. In 2011, Apple tried to tap into this market opportunity. The monthly iTunes Match

service has been launched, which for 25 euros per year searches for the tracks on the given data carrier and, upon user request, replaces the files with a good, high-quality version from the iTunes range (Bizó, 2013). In the game industry, even demo versions available for free can cause problems in selling the given product. If the demo of the given product is not only stimulating, but also satisfies the customer's needs, then he will no longer need to buy the product, so the situation is the same as if he had just downloaded the final program (Doktor, 2016).

Video games first appeared in the late 1940s, but today, due to rapid technological advances, copyright protection in this industry must not only apply to the specific product. It is necessary to protect certain parts of the given product separately, for example, in addition to the software, the line of code that maps the graphics process (also known as the graphics engine) or, in the case of multiplayer mode, the program that filters out cheats. Nowadays, the game industry also relies heavily on online distribution (Bachell et al., 2014). The first prominent online service is Valve It was Steam owned by Corporation, launched in 2004. Steam included the retail distribution of games, Digital Rights Management, created an opportunity for freelance developers and consumers to connect, and created a social platform for gamers. At first, Steam received a negative reception, as running the program required a continuous online connection and took resources away from the computer's performance, but since 2004, following Steam, several game publishing companies have created their own distribution networks (Moore, 2009). The protection procedures used to filter out pirated versions often bothered even those consumers who bought the software in the original version. In this regard, we can mention the client software of Electronic Arts Origin, which, after getting onto the computer, began to examine the hard drives of the computer as a kind of spy virus (Usher, 2019). In the gaming industry, there have been several attempts to create a kind of cloud-based solution. The most successful attempts at the moment (nowadays) are "Stadia" published by Google and Nvidia corporation launched by "Nvidia GeForce Now". Google "Stadia" was released in November 2019, the service is available for free or as a monthly fee (\$9.99/month), which allows users to access new game software every month at a discounted price (usually a 50% discount). Games can be purchased at full price for free users. "Stadia" is currently available in a limited way in only 14 countries. Google's service works as a separate gaming platform, like the Xbox or Playstation gaming platforms (stadia.google.com, 2019). Stadia's competitor, Nvidia GeForce The development of "Now" began in 2015. In order to use the service, it is necessary to install Nvidia on the computer GeForce Now program, through which the user can connect to the Nvidia server in order to run the given game software. The service is limited to running games only, game software cannot be purchased through this service. The user must have a Steam, Uplay, or Epic Games Store account and purchase the game software on these platforms to be able to play them through GeForce Now. GeForce Now will be available in two ways, for "Free" users the use of the service is limited to one hour of playing time, for "Founders" (who

pay \$5.49 per month for the service) the service offers the opportunity, to run the given software for a longer period. When the time expires, the workflow can be restarted immediately in both cases, but the "Founders" have priority during logins in terms of using free machines (nvidia.com, 2019).

In Hungary, approximately 1.7 million people used some kind of torrent service. The amount of damage caused by downloads can reach the level of the infringement amount even by downloading some movies for business purposes. The license fee can be a minimum of eight hundred dollars per film, in the case of music tracks, the royalty table of the Association of Hungarian Sound Recording Publishers is the guideline. In the case of software, the retail price of the product is considered the guiding principle (Parti et under _ 2014). Not all users of file exchange programs and torrenters can be considered criminals. According to the law in Hungary, downloading and copying of films, series, music and games and other products protected by copyright is allowed without payment of a fee or the permission of the author, if this downloading or copying is not done for the purpose of earning income. On the other hand, during uploading ("seeding"), the person who previously downloaded already commits a crime. At the same time, the basis of torrent technology is that downloading is accompanied by uploading, and the user can prevent this by using the download software or the computer's firewall. Reloading does not take place even if there is no other downloader of that content. In Hungary, the main targets of the authorities are various groups that commit violations worth several million forints, and the attention of the National Investigation Agency is primarily focused on paid torrent sites (Ibolya, 2011/2). According to a research from 2004-2008, during this period, in the European Union, the income of the music industry decreased by 26%, but the decrease continued from 2008 to 2011 (Pez, 2014). Because of such effects, several European countries have introduced strict regulations. In France, the agency responsible for the protection of copyright and the supervision of works distributed on the Internet, HADOPI (Haute autorité pour la diffusion des oeuvres et la protection des droits sur Internet) began to monitor private individuals' downloads of copyrighted products. If a person illegally downloads content, they will receive a warning twice, first by e-mail and then by registered post, the third time the user will either receive a fine ranging from 1,500 to 3,000 Euros or their internet access will be suspended with the help of the internet service provider (maximum one year). During the suspension, the user may not enter a contract with another internet service provider. Although Internet access is not restricted by law in the United Kingdom, if the service provider discovers that the user is committing an illegal act, it can collect data about the user after the three warnings and forward this data to the right holder. It is a condition that less than one month must pass between two notifications. Although these two regulations have enough power to deter users from illegal activities, it can be seen that they may violate human rights due to the limitation of information (Kovács, 2010).

Methodology

The research presents the relationship between torrent and streaming services in the Hungarian online marketplace and proves the market reorganization between torrent users and streaming service users. The research tried to find an explanation for what might be the motivation of torrenters and those who choose streaming services. The research was primarily focused on assessing the relevant consumer patterns of the age groups between 18 and 30 years old, after the secondary research, qualitative and then quantitative research followed. During the qualitative research, subjects with different educational qualifications and different incomes answered the questions, while the quantitative research was made with the help of a Google questionnaire, the completion of which was voluntary. Before starting the research, the following hypotheses could be formulated:

1/Hypothesis A: Many people use torrenting to access copyrighted content in Hungary.

Hypothesis 1/B: Users of torrent programs are sufficiently aware of the characteristics of torrenting.

Hypothesis 2: In addition to using streaming services, most respondents also use torrenting.

Hypothesis 3: In terms of movies and series, the respondents mostly choose Netflix and HBO Go.

Hypothesis 4: When listening to music, people do not primarily access the content through streaming providers.

Hypothesis 5: Torrenters mostly download music.

Hypothesis 6: Before purchasing software, consumers consider it a safe solution to download the given software.

Hypothesis 7: Consumers perceive streaming services as overpriced.

Hypothesis 8: Consumers are disturbed by advertisements in streaming services.

Hypothesis 9: In the shrinking market of streaming services, consumers would be willing to pay more if they could consume the services of several competing providers in one package.

During the qualitative research, the questions were formulated in two ways. The introductory questions tried to ensure that the given person was sufficiently prepared to answer. Another purpose of the filter question was to find out whether the respondent prefers torrenting or streaming services when consuming content. Based on this, the qualitative research continued based on the question. The screening question was followed by questions designed to assess the factors motivating the choice of the given method. After the motivation questions, the purpose of the questions to explore the advantages and disadvantages was to develop a general picture of the different methods, and to know what content consumers consume and where. At the end of the interview, the closing questions and the demographic questions were asked. The *raison d'être* of the closing questions was that it revealed what tools could be used to guide torrenters towards streaming, and how users of streaming services could improve the quality of the service. It is necessary to say in advance that both in 2019 (that is, before the COVID'19 closures) and in 2021, a questionnaire survey of approximately 200 people took

place. This was due to the premise that the COVID'19 shutdowns significantly affected consumer preferences for content services. Google Stadia and Nvidia Geforce Now services were not included in the 2019 questionnaires, as Google Stadia was not available in Hungary, and Nvidia Geforce Now was still in the development phase at the time of the first research.

Results, conclusions

Based on the 2019 survey, it can be established that more than three-quarters of the respondents accessed the content through torrenting. Based on this, hypothesis 1/A is acceptable, according to which many people use torrenting to access content in Hungary. Those who choose torrenting are mostly familiar with this method of accessing content to a sufficient extent, which means that hypothesis 1/B can also be considered accepted. From the answers, it can be observed that there is a higher proportion of those who do not fully understand the nature of torrenting than those who use this method. It can be concluded that most of the respondents also use streaming services, so hypothesis 2 is acceptable. Some people also use torrenting as a kind of preliminary test before buying the product, thereby reducing the risk of investing the financial resources involved in using a streaming service. However, this is not true for movies or series. It can also be stated that HBO Go is the most chosen content provider for movies and series among those choosing the streaming service, Netflix is the second most chosen content provider with a 7% choice rate, while Amazon's movie and series service is present with 1% of the on the market. Based on the data, hypothesis 3 can be considered acceptable to a certain extent. In 2019, many respondents did not use a streaming service for listening to music. It follows that hypothesis 4 must be accepted. The choice of low streaming access to music can be explained by the fact that the songs do not have such an ideological value for consumers that they choose the paid solution. In the case of games, the majority of respondents do not use online services. It can be assumed that you are either not interested in consuming this content, or you are accessing it from another source, torrenting. Steam can still be considered an outstanding phenomenon on the market, since its release in 2004, it has been able to retain the most users in a unique way. Electronic Arts Origin and Ubisoft _ Uplay's service has a significant presence in the market, but lags behind Steam. Steam 's biggest advantage over other service providers is that it sells the products of several different game publishing companies and creates an opportunity for " indie ", i.e., freelance game developers, to sell their products. The new entrant is Epic Games with its release last year, Store was able to reach 10% of those surveyed, presumably due to its good marketing activities, according to which previously released big-budget games were sold for free from time to time. Torrenting was used to the greatest extent by those surveyed to obtain movies. With this result, hypothesis 5 must be rejected. Users tend to download other programs or books to an insignificant extent. The answers to the questionnaire show that almost half of the respondents are not willing to pay for online services, but they were

mostly willing to spend HUF 2-4,000 per month on streaming services. Presumably, those who are willing to spend more are willing to pay for more different types of services or for more services operating in the same sector. The respondents consider streaming services to be overpriced in proportion to their offer, most of the respondents considered this to be a problem, while advertisements were considered disturbing, and the fact that the monthly fee for the service must be paid, even if the given service is maintenance, was considered a problem is under in the given period. Most respondents agree that torrenting is a safer solution before purchasing the program. It can be assumed that the respondents had trust problems with online shopping, so hypothesis 6 is acceptable. Most respondents agreed with the statement that the price of streaming services and the value they provide are not equal, therefore hypothesis 7 is also acceptable. After carrying out a correlation test (with a Chi-square test at a 95% confidence level), it can be stated that, according to consumers, there is a correlation between the overpricing of services and the level of torrenting. The vast majority of respondents strongly agree with the statement that there are too many ads on streaming services that are distracting to consumers. Based on this, hypothesis 8 is acceptable. Another significant result is that many respondents would not be willing to purchase several services in one package if this would entail a certain price increase. Among the respondents who would be willing to buy several streaming services in one package, most would be willing to pay a maximum of 20% more than the price of one service. Based on these, hypothesis 9 must be partially rejected. The average age of the respondents was around 27 years old, which corresponds to the criteria of the research. In terms of education, most respondents had a high school diploma, OKJ (National Qualification Registry) vocational qualification or university bachelor's degree. Regarding the monthly income per person, the average income of the respondents was HUF 122,000, and the standard deviation of the average income was HUF 72,000.

Based on the 2021 survey, it can be stated that more than half of the respondents have already used torrent services to access content, hypothesis 1/A of the previous research is still acceptable. The majority of the respondents were divided on which sites they use for torrenting, based on which hypothesis 1/B is also acceptable. It can be seen from the additional answers that more than half of the respondents use a streaming service. Based on the survey, it can be observed: in addition to the fact that since 2019, streaming services have become even more widespread and these services have become slightly more expensive, some torrenters found it more convenient to subscribe, and for some of those who also use streaming, the service fees have become too expensive. Hypothesis 2 can no longer be considered acceptable in the 2021 research. Hypothesis 3, according to which respondents choose Netflix and HBO Go the most in terms of movies and series, can still be considered acceptable. Many respondents still do not use streaming services to listen to music, so hypothesis 4 must be accepted again. Those interviewed continue to use torrenting to obtain movies to the greatest extent.

With this result, hypothesis 5 must be rejected again. Almost half of the respondents are not willing to pay for online services, and it can also be seen that there are similarly large numbers who are willing to pay HUF 2,000-4,000 for online services. The disadvantages of torrenting were mostly cited by the interviewees as the download time, as well as the fact that there are cases where the files are damaged, or perhaps there are no or few "seeders". Users of streaming services most often objected to the presence of advertisements, and to the fact that if they do not have time to use the given service, the respondents consider the subscription to be a waste of money. The majority of those surveyed agree that torrenting is a safer solution before purchasing the program, but for 2021, opinions are more divided compared to the average. Based on this, hypothesis 6 can be considered acceptable again. Most people still agree that the price of streaming services is not equal to the value they provide, and in 2021 the number of people who strongly agree with this statement increased. For this reason, hypothesis 7 is acceptable. Correlation analysis was repeatedly conducted on the opinion of the overpriced streaming services and on the way the respondents choose to access the contents, with a Chi-square test at a 95% confidence level. It can be stated that, according to consumers, there is a correlation between the overpricing of services and the level of torrenting. Hypothesis 8 can be accepted, which is primarily a problem for users of the freemium service model since advertisements are most present in this operating model. It can still be observed that half of the respondents would not be willing to buy more services in one package if this would entail a certain price increase. Of the respondents - who would be willing to buy several streaming services in one package - they would mostly be willing to pay 20% or 50% more than the price of one service. Based on these, hypothesis 9 must be partially rejected. See Table 1 for a summary. The average age of the respondents was 23 years. Like the previous research, the respondents mostly have a high school diploma, OKJ vocational qualification or university bachelor's degree. Regarding the monthly income per person, the average income of the respondents was HUF 93,000. The lower average income can be explained by the lower average age.

1. table: Acceptability of the research hypotheses based on the results of the questionnaire research.

Hypothesis number	Hypothesis	Evaluation (2019)	Evaluation (2021)
1/A	Many people use torrenting to access content in Hungary.	accepted	accepted
1/B	of torrent programs are sufficiently familiar with the procedure and are aware of the concept of torrenting .	accepted	accepted
2	streaming services, the majority of respondents also use torrenting	accepted	denied
3	In terms of films and series, the respondents mostly choose Netflix and HBO Go.	accepted	accepted
4	In the case of listening to music, people do not primarily access content through streaming providers.	accepted	accepted
5	Torrenters mostly download music.	denied	denied
6	Before purchasing software, consumers consider it a safe solution to download the given software.	accepted	accepted
7	Consumers perceive streaming services as overpriced.	accepted	accepted
8	Consumers are bothered by ads on streaming services.	accepted	accepted
9	the shrinking market of streaming services, consumers would be willing to pay more if they could consume the services of several competing providers in one package.	denied	denied

Source: own editing

Torrenting has a right to exist amid Hungarian conditions. Positive effects such as the product sample effect and the easy spread of content, and thus a greater degree of advertising, can help the purchase of the given product. It can be observed that the fragmentation of the market in Hungary has a similar effect as in the USA (Hersko, 2019), so once again, consumers are not willing to pay monthly fees to several service providers, preferring to obtain content through torrenting (Feldman, 2019). A slight decline in torrenting can be observed in the period between 2019-2021, but considering the low risk associated with torrenting and the fact that streaming services have become slightly more expensive, this change is insignificant. Movies and series are the most consumed content among users of both torrenting and streaming services. In the case of listening to music tracks, consumers use the streaming service less, since the music tracks do not have such an ideological value for consumers that they choose the paid solution, and torrenting represents a lower risk for them. From the point of view of the gaming industry, users continue to try out software by torrenting before making purchases. In the online market of the gaming industry, it is observed that more and more participants are entering. Due to these phenomena and the prices of newer products appearing in the game industry, there is a risk that torrenting may continue to grow.

The respondents considered the prices of streaming services to be too expensive in proportion to the range of services offered by the respective service providers. If the offer of the given service provider were to expand, it could mean a greater degree of acceptance, but in addition to the expansion of the offer, it would be a good solution if several service providers were connected. HBO Go's sales solution, that is, the sale of TV and online service in a package, can provide a comfortable transition for consumers to switch to streaming providers. It's hard to suggest changes from the perspective of the music and gaming industry, but Nvidia Geforce Now has promising potential, and Steam and platforms that copy Steam are handling the situation well. Of course, the tightening of official regulations could also reduce torrenting, as the current rules in our country are quite permissive.

Bibliography

- Bachell, A and Barr, M. (2014), *Video Game Preservation in the UK: a survey of records management practices*. International Journal of Digital Curation, 9 (2). pp. 139-170. ISSN 1746-8256. [Online] (2014). [Referenced: 20/01/2019] Source: <http://eprints.gla.ac.uk/98882/1/98882.pdf>.
- Bátky, Z. (2018), Torrents are back in fashion, and because of Netflix and others. 2018. Source: <https://pcworld.hu/pcwlite/ujra-divat-a-torrent-tul-sok-lett-a-streaming-szolgalato-254106.html>.
- Bízó, G. (2013), The music industry in the age of new radio. [Online] (2013). [Referenced: 2019. 01.] Source: https://mediakutato.hu/cikk/2013_04_tel/02_zeneipar_uj_radio.pdf.
- Bodó, B and Lakatos, Z. (2011), The online black market of films and cinema distribution Part 2: Mechanisms shaping demand (Empirical investigation of the online pirate audience of cultural works in Hungary). [Online] (2011). [Referenced: 22.01.2019] Source: http://www.sociologia.hu/dynamic/szocszemle_2011_2_11_140_bodo_lakatos.pdf.
- Cuckow, P. (2014), How does torrenting affect the media industry in the UK? Should the UK continue to block torrenting websites? [Online] (2014). [Referenced: 01/23/2019] Source: <http://www.pezcuckow.com/portfolio/reports/torrenting.pdf>.
- Doktor, O. (2016), Illegal downloading in the music industry: The positive effects of piracy. [Online] (2016). [Referenced: 01/26/2019] Source: http://publikaciok.lib.uni-corvinus.hu/publikus/szd/Doktor_Oliver.pdf.
- Feldman, B. (2019), nymag.com. [Online] 2019. [Cited: 27.06.2019] <https://nymag.com/intelligencer/2019/06/piracy-is-back.html>.
- Habók, L. (2017), hwsz.hu. [Online] 2017. [Referenced: 2019. 06. 27.] <https://www.hwsz.hu/hirek/58242/pwc-kutatas-videostream-televizios-elofizetes-2017.html>.
- Hersko, T. (2019), Nearly Half of US Consumers Are Frustrated With a Bloated Streaming Market. [Online] 2019 [Accessed: 2019-06-14] <https://www.indiewire.com/2019/06/too-many-streaming-services-television-decentralization-1202149596/>.
- Ibolya, T. (2019), The criminal law assessment of "torrent raids". [Online] 2019. [Referenced: 2019. 02 15.] Source: <http://ibolyatibor.atw.hu/Sajat/7.pdf>.
- Jean, AC (2015), Web TV Networks Challenge Linear Business Models. Media Industries Project. [Online] (2015). [Referenced: 04/05/2019] Source: https://www.academia.edu/10840496/Web_TV_Networks_Challenge_Linear_Business_Models.
- Kovács, G. (2010), The fight against illegal downloads continues. [Online] (2010). [Referenced: 03/29/2019] Source: <https://www.sztnh.gov.hu/hu/kiadv/ipsz/201010-pdf/03.pdf>.
- Moore, CL (2009), Digital games distribution : The presence of the paste _ [Online] (2009). [Referenced: 12/04/2019] Source: <https://ro.uow.edu.au/cgi/viewcontent.cgi?article=1943&context=artspapers>.
- nvidia.com. (2019), [Accessed: 12/03/2019] <https://www.nvidia.com/en-eu/geforce-now/support/>.
- Parti, K and Kiss, A. (2014), Computer crime then and now. [Online] (2014). [Referenced: 03/22/2019] Source: https://www.researchgate.net/profile/Katalin_Parti/publication/269400465_A_szamitastechnikai_bunozesrol_akkor_es_most/links/5489a8090cf225bf669c6e98.pdf.
- Pintér, R and Hack, HJ (2016), Do Hungarians need Netflix?: Netflix's entry into the Hungarian market from the perspective of consumers. [Online] 2016. [Cited: 02/21/2019] https://mediakutato.hu/cikk/2016_03_osz_tel/07_kelle_a_netflix_a_magyaroknak.pdf.
- Rooij, J. (2016), Going with the Streaming Flow: Framing the Discourse you Contemporary Music Consumption . [Online] (2016). [Referred to: 04/08/2019] Source: <https://dspace.library.uu.nl/handle/1874/331071>.
- stadia.google.com. (2019). [Referred to: 10/03/2019] <https://support.google.com/stadia#topic=9634925>.
- sztnh.gov.hu. (2019), National Office of Intellectual Property. [Online] (2019). [Referenced: 03.05.2019] <https://www.sztnh.gov.hu/hu/szerzoi-jog/szerzoi-jogi-alapfogalmak>.
- Taylor, G. (2013), Digital Music Nation: The UK's digital music landscape. [Online] (2013). [Accessed: 20/03/2019] https://www.ukmusic.org/assets/general/Digital_Music_Nation_2013_LR.PDF.
- Usher, W. (2019), EA Says Origin It isn't Spyware, Although It Does Scan Your Entire PC. I have no place: Cinemablend, (2019). Source: https://www.cinemablend.com/games/EA-Says-Origin-Isn-t-Spyware-Although-It-Does-Scan-Your-Entire-PC-36690.html?fbclid=IwAR34qTKKDTZ-kw3_YIp

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