

COVID-19 pandemic impact on the Polish community of twitch.tv streaming platform

Wpływ pandemii COVID-19 na polską społeczność platformy streamingowej twitch.tv

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Abstract

The paper describes the process of analyzing the data of the Polish community on the Twitch.tv streaming platform. A description of the platforms and tools used to research the data was presented. The research was conducted on the basis of three issues. Data on the number of live broadcasts and the number of recipients were analyzed. Separate charts have been generated for each of them. The code used to create the charts was written in the R language. Conclusions were drawn on the basis of the generated charts.

Keywords: streaming; twitch.tv; COVID-19; content creator

Streszczenie

W pracy został opisany proces analizowania danych polskiej społeczności na platformie streamingowej Twitch.tv. Przedstawiony został opis platform oraz narzędzi wykorzystanych do badania danych. Badania zostały przeprowadzone w oparciu o trzy zagadnienia. Analizie poddane zostały dane dotyczące ilości nadawanych transmisji na żywo oraz liczby odbiorców. Do każdego z nich zostały oddzielnie wygenerowane wykresy. Kod służący do stworzenia wykresów został napisany w języku R. Na podstawie wygenerowanych wykresów wyciągnięte zostały wnioski.

Słowa kluczowe: transmisje na żywo; twitch.tv; COVID-19; twórca internetowy

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1. Introduction

In the times of the COVID-19 pandemic, the Internet strongly entered in every area of human life. Due to the closure of society at home, the Internet has become indispensable in everyday life. For this reason, the phenomenon of remote work has significantly increased and online entertainment has become something much more common than before.

The lack of entertainment in everyday life has resulted in an increase in the broadly understood interest in computer games among the society of all ages. Even before COVID-19, the gaming and streaming industry grew rapidly, and the global outbreak of the pandemic significantly increased the attraction to gaming. The internet has made it possible for people not only to play games, but also to constantly watch people play them. Multiplayer games have been a staple of the gaming community for many years. There are many platforms that allow millions of players around the world to play the same game with each other. During the COVID-19 pandemic, the online social game Among Us saw its popularity burst. It is a multiplayer and multiplatform game that gained its peak of popularity in September 2020. It was also a hit of popularity on the Twitch.tv streaming service.

In addition to games, content creators who provide entertainment in real time have also gained popularity. Anyone who decides to devote their time to creators faces a difficult choice, because there are different

streaming platforms, and the choice itself is just the beginning of the adventure. Currently, the recipient can choose from several platforms, including Facebook Gaming, YouTube or Twitch. After choosing a platform, the user looking for entertainment must define their expectations, such as the language of broadcasting and the game. Each profile includes a name, title of the broadcast, type of activity or profile picture [1]. More and more often we can meet big companies entering the streaming world. With the development of the COVID-19 pandemic and the growing interest in streaming among people, many creators who had previously given up live broadcasts to maintain better contact with their audience returned to the Twitch.tv platform. The appearance of completely new faces is noticeable, which, thanks to their charisma, gained popularity very quickly.

The loss of contact with the fans was felt by the musicians who, due to the lack of concerts, do not have direct contact with the fans. The same is the case with athletes, the lack of contact pushed both these social groups towards streaming, so now fans can watch livestreams how their idols are doing in online games, and additionally they can ask them their questions and exchange opinions with other online chat participants.

2. Materials and methods

2.1. Twitch.tv

Twitch started in 2011 and has quickly become one of the most important digital video entertainment platforms

[2]. In 2014, Twitch was bought by Amazon for \$ 970 million. This platform is currently used to broadcast private live broadcasts of video games, e-sports tournaments, press conferences and various special events.

However, most of the broadcasts are private, and streamers, thanks to their audience, can fully devote themselves to their work, which is regular live streaming. Viewers can support their favorite creators through voluntary cash donations, bits or subscriptions. In addition, the streamer has the ability to run ads during the broadcast, thanks to which he can also earn money. Streamers very often form groups within which they cooperate and share a large crowd of viewers. These types of creators start broadcasting right after each other so that the content is conveyed to the recipient all the time, without break.

Streamers currently have a lot of influence on computer game companies, because they are the people who review games in some way and decide whether they will promote a game [3].

Twitch in 2020 could boast of such results as:

- an average of 30,000,000 unique visitors per day;
- 7,000,000 unique streamers per month;
- 1,000,000,000,000 minutes viewed [4];

2.2. Research group

The research was conducted on ten carefully selected streamers. The selection criteria were regularity of streaming and the time from which the creator has been broadcasting live. In terms of regularity, the creators could not have too large discrepancies in the number of transmission hours in the following months and could not take breaks from streaming, which would be indicated by low activity on the platform, because such a situation could lead to errors in the analysis. In the case of the time from which the creator is streaming, it had to be at least January 1, 2019. 10 streamers who met these requirements were selected.

2.3. R (programming language)

The R language was used for the research. It is also an environment for statistical calculations and their graphical presentation. It was developed at Bell Laboratories by John Chambers and his associates. The strength of the R language is the ease with which you can create high-quality graphs containing mathematical symbols and formulas where needed. Every effort has been made to ensure that the default values when creating the chart generate a transparent result, but the user still retains full control over the generated image and can modify it freely.

2.4. RStudio

RStudio is an integrated development environment for the R programming language. It has been carefully considered and anticipates the needs of new R users, and provides high-quality tools for the more advanced. RStudio simplifies many of the functionalities available in R and is the perfect combination of an R text interface with a graphical user interface [5-7].

3. Results

3.1. Epidemic impact on the number of unique viewers

The first case of COVID-19 in Poland was detected on March 4, 2020. March 16, 2020, an epidemic threat was introduced throughout the country, and remote teaching entered into force on March 25. Due to this fact, March 2020 was adopted as the month of the outbreak of the pandemic in Poland [8].

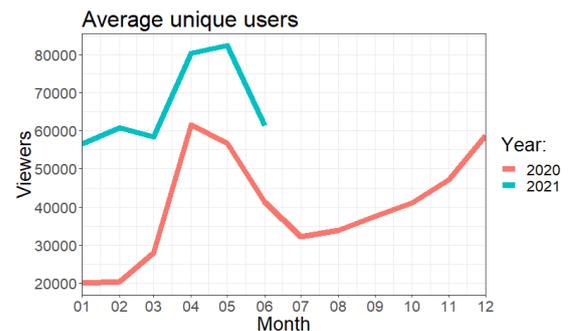


Figure 1: Monthly average unique users - chart

Figure 1 presents a graph of the average number of unique users since the beginning of 2020. A unique user is a person who visited the twitch.tv platform at least once a day.

The chart above shows that the average number of unique viewers in the first months of 2020 (January, February) fluctuated around 20,000. In the first month of COVID-19 coronavirus case in Poland, it increased by almost 10,000. April was the month of the greatest increase in unique users. Then, along with lifting the restrictions, the number of unique viewers decreased, and the introduction of new restrictions caused it to grow. Therefore, it can be concluded that the pandemic had a significant impact on the average number of unique viewers on the twitch.tv platform and caused their large increase.

3.2. Epidemic impact on the number of streamers

Figure 2 presents a chart showing the monthly average number of unique

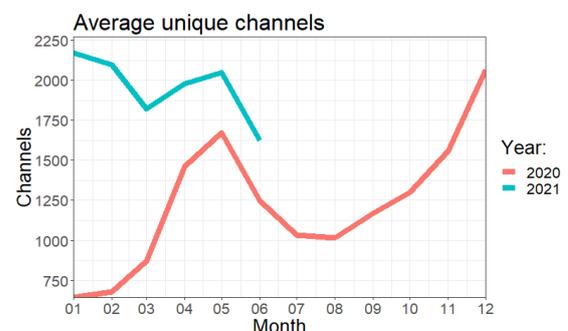


Figure 2: Monthly average unique streamers – chart

Polish channels on which live broadcasts took place. The chart shows that in April 2020 there was a signifi-

cant increase in the number of unique channels transmitting broadcasts, and in the following month there was also an increase, although it was not as large as in April. The number of channels in May increased by almost 100% compared to March.

On this basis, it can be concluded that the outbreak of the pandemic in Poland had a significant impact on the number of streamers, which has visibly increased.

3.3. The impact of introducing a red zone on the number of viewers

The increase in COVID-19 coronavirus infections, successive records of patients and deaths, have forced the government to introduce new sanitary restrictions. At the conference, which was organized on October 23, 2020, the introduction of the red zone throughout the country was announced. Restrictions included remote teaching, sports events without audience participation, the operation of swimming pools, aqua parks and gyms was suspended, and young people under the age of 16 were not allowed to move outside without adult supervision between 8:00 and 16:00. The easing of the restrictions did not begin until the following year, at the beginning of February [8, 9].

In order to determine the impact of the introduction of the red zone on the average number of viewers, two months before the introduction and two months after the introduction of the red zone will be taken into account. It will be the period from August to December.

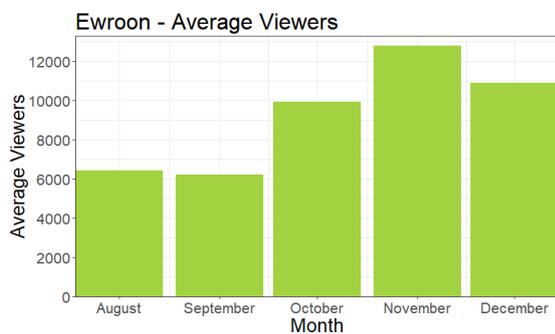


Figure 3: Monthly average viewers – Ewroon chart

Figure 3 above shows a chart of a creator who in the months following October achieved a higher average number of viewers than in the months before the introduction of the red zone across the country.

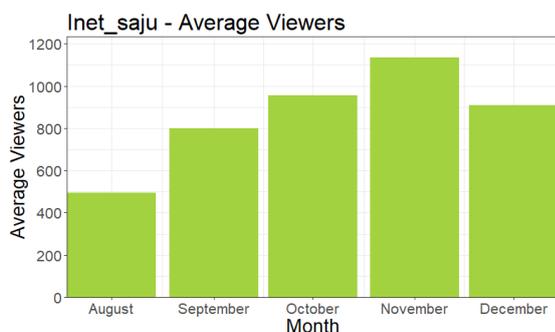


Figure 4: Monthly average viewers – Inet_saju chart

The charts presented on Figures 4 and 5 show the content creators who also achieved a noticeably better result in the average number of viewers in the period after the introduction of the red zone in Poland.

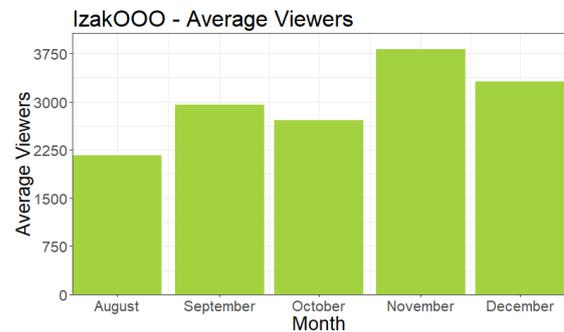


Figure 5: Monthly average viewers – IzakOOO chart

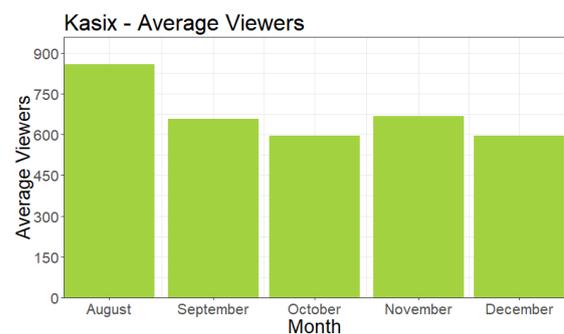


Figure 6: Monthly average viewers – Kasix chart

Creators whose charts are presented in Figures 6 and 7 also, as in the case of previous streamers, recorded an increase in the average number of viewers in the month following the introduction of the red zone.

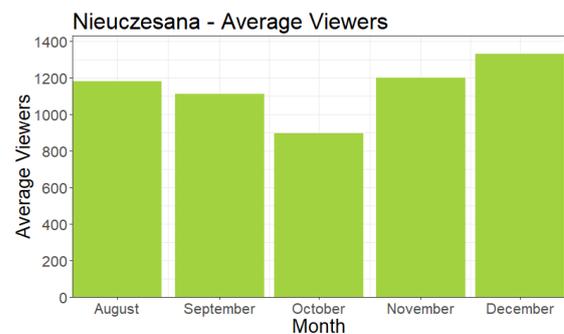


Figure 7: Monthly average viewers – Nieuczesaana chart

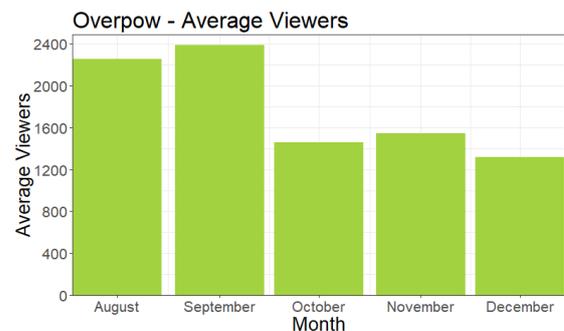


Figure 8: Monthly average viewers – Overpow chart

Figure 8 shows the creator who outperformed the average number of viewers in November but did not sustain this rising trend in the following month.

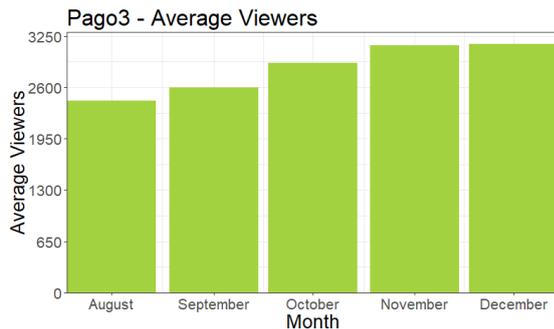


Figure 9: Monthly average viewers – Pago3 chart

The graph of the creator in Figure 9 shows the increase in the average number of viewers after the introduction of the red zone.

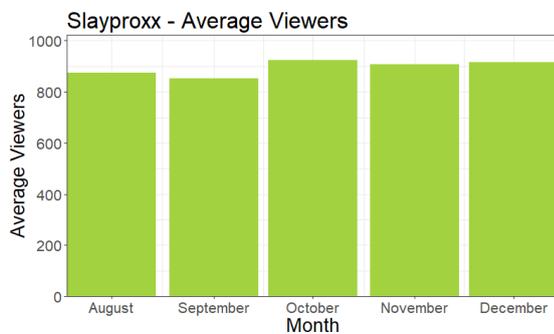


Figure 10: Monthly average viewers – Slayprox chart

The graph of the creator presented above (Figure 10) shows that the introduction of the red zone has no influence on the achieved result of the average number of viewers.

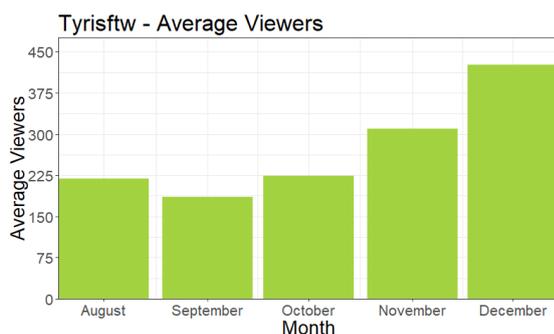


Figure 11: Monthly average viewers – Tyrisftw chart

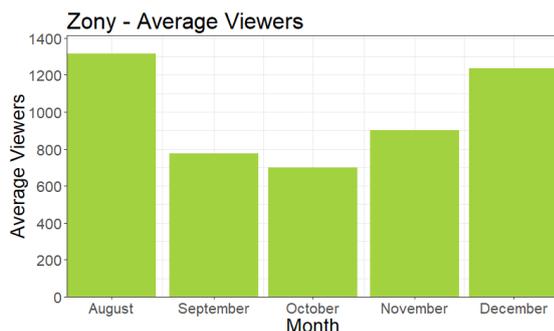


Figure 12: Monthly average viewers – Zony chart

Figures 11 and 12 show the graphs of content creators who obtained significantly better results in terms of the average number of viewers in the months after the introduction of the red zone in Poland.

4. Conclusions

The aim of the study was to analyze the data of the Polish community on the Twitch.tv streaming platform in the face of the COVID-19 pandemic.

The first issue concerned the unique number of visitors to the Twitch.tv platform during the COVID-19 coronavirus pandemic. It was possible to answer this question unequivocally. With the outbreak of the pandemic, the platform began to be visited by many more people looking for entertainment. In April 2020, the average number of unique viewers was around 60,000. Comparing this result to February 2020, when this number was around 20,000, it can be clearly concluded that the pandemic had a positive impact on the number of viewers. Additionally, it is worth mentioning that the average number of unique users in May 2021 reached over 80,000.

Another query concerned the impact of the pandemic on the number of people broadcasting live. After analyzing the data, it was possible to answer this question directly. The outbreak of the pandemic had a huge impact on the number of people broadcasting live. The number of people streaming in April 2020 was twice as high as in February 2020, and in February 2021 this number was almost three times higher than in the previous year.

The last issue was the impact of the introduction of the red zone throughout Poland in October 2020 on the number of viewers. In order to better look at this issue, two months before and two months after this event were taken into account. In this case, the months of August - December were the research period. An analysis of the data selected in this way showed that the majority of the surveyed content creators obtained a greater average number of viewers in the months following October than in the months preceding it.

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