

Audiences and streamers on Twitch: consumption and production patterns in the Spanish-speaking world

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Abstract

In the context of the struggle for audience attention, Twitch has gained ground by offering live broadcasts of user-generated content. This article quantifies this platform by focusing on the Spanish-speaking community, specifically by analysing the broadcast patterns of streamers, audience distribution and consumption cycles. The results show massive, consolidated audiences with cyclical patterns, as well as clear differences between amateur and professional creators; the latter capture the majority of the audience and have generated production routines comparable those in the TV industry.

Keywords

Twitch, Live Streaming, Creators, Streamers, Audiences.

Resum

En un context de pugna per l'atenció de les audiències, Twitch s'ha consolidat proposant l'emissió en directe de continguts generats pels usuaris mateixos. Aquest article dimensiona la plataforma esmentada centrant-se en la comunitat hispanoparlant i posa el focus sobre els patrons d'emissió dels streamers, el repartiment d'audiències i els cicles de consum. Els resultats mostren audiències massives, consolidades i amb patrons cíclics, així com diferències clares entre creadors amateurs i professionals, els quals concentren la gran part de l'audiència i han generat rutines de producció homologables a la indústria televisiva.

Paraules clau

Twitch, live streaming, creadors, streamers, audiències.

1. Introduction

Even though the platform Twitch is not new, its popularity rose significantly after 2020 due to the COVID-19 lockdown. The 'new normal' imposed by the pandemic, which primarily affected free-time choices, pushed people to seek entertainment alternatives, and just like other audiovisual content services, Twitch benefited from this situation (Narassiguin & Garnès, 2020).

Despite the pronounced increase in users in the past two years, Twitch has never stopped growing since it has been tracked. According to [twitchtracker.com](https://www.twitchtracker.com), a portal specialised in analytically tracking this platform, in 2013 it had a average of 70,000 simultaneous viewers and peaks of up to 200,000 globally. By early 2022, the average number of simultaneous viewers was 2.5 million, with peaks of 6 million. It has also experienced a considerable increase in audience and popularity in the Spanish speaking-world, which is reflected in the increasing media presence of streamers (Gutiérrez Lozano & Cuartero, 2022), the name used for people who devote themselves to broadcasting live content via the Internet. In this sense, late

2019 marked a turning point, when some of the leading content creators on YouTube in Spanish moved to this platform. They migrated motivated (as they themselves have admitted) by worsening economic conditions and a sense of arbitrariness and defencelessness in the face of increasingly reactive content policies on the Google platform (Caplan & Gillespie, 2020). With this move, touchstones in content creation like Rubén Doblás, known as 'El Rubius' on YouTube, where he has more than 40 million subscribers, and Raúl Álvarez, known as 'Auronplay', with more than 28 million subscribers on YouTube, drew a significant part of their audiences away to Twitch.

In many senses, this platform is the antithesis of YouTube, as it focuses on live content and synchronous consumption. To monetise the ephemeral, Twitch has devised a monthly subscription system (which range from €3.99 to €24.99)¹ and occasional donations. These subscriptions or donations are targeted directly at a streamer, and Twitch acts as a broker to sustain the technical infrastructure and provide the platform.

It is important to clarify the fact that with very isolated exceptions, consumers may access the live contents on Twitch without paying anything. However, they are impacted

with several advertising insertions, which also provide the streamer and Twitch with income. The way content creators earn a profit for the work they do is perceived as fairer; unlike YouTube, the income is not solely associated with advertising, which disassociates the monetisation of the content with the audience size, and therefore the end income is less influenced by fluctuations in the auction prices of advertising inserts. While YouTube focuses on the number of views as an indicator of success, on Twitch the streamer has to assemble an audience around them that is committed and loyal enough that they are willing to support the creator's work by paying a subscription or making donations. That is something that –despite appearances– happens frequently and seems natural among the most loyal viewing public. Finally, Twitch is a stabler and more permissive platform in its content policies, which has enabled YouTubers to regain some degree of authenticity and creative freedom, issues which have been especially problematic on YouTube due to its rigidity and imposition of a neutral content policy.

In the eyes of the public at large, Twitch has been considered a platform focused on broadcasting videogames, or at least that was its initial purpose. However, the arrival of the YouTubers and their massive audiences accelerated the diversification of the contents and formats available, breaking the perception of Twitch as a 'niche platform'. On Twitch it is currently possible to see people playing piano, cooking, reading books, dancing and, of course, playing videogames. Even though this last category is still its main activity, today Twitch has content tags as diverse as music, discussion, sports, politics, pets, art, beauty, software development and food and drink, among many others. This gradual addition of new categories is making it possible for creating new audience niches and is attracting new users willing to create contents, a process that is contributing to the creation of an increasingly diverse and rich ecosystem for viewers.

Thus, in the past two years Twitch has been the epicentre of a series of changes in the industry and has managed to take advantage of the new forms of consumption, which have resulted in a significant increase in the number of users of this platform and its increasing media prominence. The purpose of this study is to capture the dimension of the Twitch platform, more specifically the number of Spanish-speaking viewers and content creators. By doing so, we seek to frame the platform Twitch as a consumption option in the current context of a vast abundance of audiovisual entertainment.

1.1. Composition of the streaming industry

The current configuration of actors and competitors in the market niche of user-generated content is no coincidence but instead the result of a five-year struggle in which the major tech companies have been vying to dominate the multi-million dollar eSports market. Founded in 2007 with the name of 'Justin.tv', Twitch was acquired by Amazon in 2014 for 735 million euros, the largest acquisition made by Jeff Bezos until that date (*El País* 2014). Amazon's intention with this purchase was to

compete for eSports audiences alongside platforms like Mixer (owned by Microsoft), Facebook Gaming (owned by Meta) and YouTube Gaming (owned by Google). The period spanning 2015 to 2019 was marked by an intense struggle among these large companies to capture still fragmented audiences by making million-dollar offers and exclusivity contracts with major streamers in an attempt to mobilise attention towards a given platform (Carroni et al., 2021; Förderer & Gutt, 2018).

Today, the opacity of the audience figures of YouTube Gaming and Facebook Gaming make it difficult to ascertain each of these platforms' market shares. However, we do know that Microsoft abandoned Mixer in 2020 to join forces with Facebook Gaming, while YouTube Gaming seems more interested in offering asynchronous contents and has no prominent live content creator among its ranks. In contrast, in 2022 Twitch is the platform preferred by the majority of successful streamers, and many of them are participating with exclusivity contracts. Therefore, despite the absence of solid figures, this scene leads us to believe that Twitch occupies a hegemonic position in this industry.

1.2. Consumption motivations

The success of Twitch as an entertainment alternative, especially among younger audiences, may be due to their disaffection with traditional TV contents and the consolidation of videogames as a cultural product (Gutiérrez Lozano & Cuartero, 2020). However, the act of watching other people play videogames is nothing new, and references to this form of entertainment can be found since the birth of the medium itself (Tammy Lin et al., 2019). Broadcasts of videogames and the consumption of this kind of content is nothing more than a reinvention of tandem play (Scully-Blaker et al., 2017), a term coined to describe a style of play in which several people congregate around a player to help them through their experience, without the need for these viewers to actually intervene in the game. Twitch is somehow reviving the idea of the now-defunct arcades, where players and viewers would gather together to share the game experience live.

The consumption motivations on Twitch have also been addressed from the field of psychology, which has noted the existence of affective gratification and feelings of community or social integration (Sheng & Kairam, 2020), which help to generate viewer loyalty (Hilvert-Bruce et al. 2018). Nor should we ignore the fact that Twitch is two-way in that it makes a chat available to viewers through which they can interact with the streamer, so they can participate in the broadcast (Gros et al., 2018; Sjöblom & Hamari, 2016).

Twitch's indissoluble association with the phenomenon of influencers and micro-celebrities is also a factor to bear in mind when trying to explain the platform's success among young people. The spontaneity, proximity and sense of authenticity transmitted by the streamers, as well as the absence of constraints and filters, give this format a different tone than

other media can offer, even though all these elements are often the outcome of a carefully measured execution and conceal a high degree of professionalisation (Beil et al., 2021).

1.3. Twitch in the context of the audiovisual supply

To understand the prominence and resonance of Twitch, we have to analyse its role within the global audiovisual and entertainment industry. In the 'post-network' era (Lotz, 2007), the number of actors offering audiovisual contents has increased considerably, generating a context of fierce competition in the struggle for viewers' and/or users' attention. Following the tenets of the attention economy (Freire, 2008; Simon, 1971), traditional media, video on demand service platforms and other services offering audiovisuals are currently competing for people's time, which is considered a scarce good. Furthermore, there are more and more interrelations among the different types of audiovisuals, including Twitch, YouTube, subscription video on demand (SVoD) services, linear TV and even radio. For example, some TV programmes in Spain are already offering content on Twitch, and radio programmes are also broadcasting via this platform (with images) to complement their voice broadcasts (Gutiérrez Lozano & Cuartero, 2020). Within this context, we should note the differences and similarities between these actors in order to understand their relationship, competition and coexistence in the current audiovisual market.

Historically, the emergence of new media has meant the appearance of discourses on the end of the previously hegemonic medium, usually wielding technophilic arguments (Bolter & Grusin, 1999). In the audiovisual world, where the Twitch platform is situated, the decline and possible 'death' of TV has been proclaimed for more than a decade due to the increasing popularity of video streaming techniques. Due to their industrialisation and contents that resemble those of TV, video on demand services, especially transnational SVoD services, have positioned themselves as the future heirs of linear TV. These services offer users a vast amount of content whenever and wherever they want, in contrast to the rigid, predetermined structure of linear TV. While SVoD services like Netflix or HBO Max are compared with traditional TV (Lobato & Lotz, 2020; Radošinská, 2017; Straubhaar et al., 2021), platforms like YouTube or Twitch have tried to disassociate from these audiovisual actors by highlighting the non-industrialisation of their contents, most of which are generated by (non-professional) users.

Unlike SVoD services and platforms like YouTube, Twitch is based on live broadcasts. Live content has always been one of the main cornerstones of the audiovisual industry, as it guarantees a potential connection to a shared social reality that is happening at that very moment, boosting the cultural value of that content (Bourdon, 2000; Couldry, 2004). As 'live' content was losing prominence, except for specific events like large sporting or news events (Delgado et al., 2018), Twitch's strategy is based on synchronous consumption, while also harnessing

the social connection among users to generate audience interest (Hilvert-Bruce et al., 2018).

Despite the importance of video on demand (VoD) as a form of entertainment in recent years, which comes from giving viewers a high degree of control over what audiovisual titles they watch from an extensive catalogue and when they watch them, leaving old contents available on the platform is optional on Twitch. Many streamers do not keep their videos after broadcasting them live, and for those who do decide to activate the VoD option, the platform only keeps the content accessible between 14 and 60 days.² This is reminiscent of the 'catch-up' dynamics of linear TV, in which programmes broadcast live are only accessible for a certain period of time (Raats et al., 2016). The clear focus on live content distinguishes Twitch from other platforms based on user-generated content and separates it from the offerings of the leading SVoD services.

The prominence of live broadcasts on the platform entails implementing a series of practices to guarantee a number of live viewers, which means paying attention to key factors like broadcast time, the competitions' broadcasts and the length of the contents, factors that are highly developed in the TV industry. However, Twitch is a platform with a transnational reach capable of generating consumption communities beyond national boundaries, mostly based on content that is not professionally generated.

2. Objectives

Unlike other user-generated content platforms, there is little research focused on Twitch. Studies have been conducted from the field of education which explore the platform's potential as a tool to transmit technical-scientific knowledge (Gandolfi et al., 2022), its use as a complement or alternative to formal teaching (Pozo-Sánchez et al., 2021) and the existence of streamers and communities of content creators specialised in disseminating scientific knowledge (Steinbeck et al., 2021). Specific elements of the interface and the possibilities it affords have also been the focal point of research, such as interaction spaces in real time (Nematzadeh et al., 2019), the mechanisms available to streamers to directly arbitrate in the ways users are interacting (Flores-Saviaga et al., 2019; Poyane, 2019) and the collective consumption experiences facilitated by this platform (Jacobs & Booth, 2021).

Other studies have observed how the different types of contents and audience size affect communities of viewers, the quality of interactions and their level of commitment to the content creator (Wolff & Shen, 2022). Likewise, research has examined how communities of anonymous viewers sometimes evolve to give way to closer interpersonal relationships (Sheng & Kairam, 2020). Studies have also been published with the gender perspective, which reveal the issues facing women who participate in creating contents around videogames, a

niche that has traditionally been occupied by men (Kampel et al., 2020; Olsson, 2018). The field of computer science has studied metrics and indicators of live broadcasts to determine the factors that lead to a streamer's success and growth (Le et al., 2021). Finally, the studies conducted by Gutiérrez Lozano and Cuartero analyse the increasing presence of streamers in the media in Spain and the popularity of the platform among younger audiences (Gutiérrez Lozano & Cuartero, 2020, 2022).

However, there is little literature that manages to measure and quantify Twitch as a mass phenomenon within the framework of communication studies. Even though the platform's press kit provides macroscopic figures on its audience and content creators, it is difficult to find detailed information that helps to accurately describe and understand the dynamics occurring on the platform.

Therefore, this study seeks to offer a general approach to Twitch focused on the Spanish-speaking community, with a spotlight on three basic factors: audiences, content creators and behavioural patterns. To do so, it has three objectives:

- a) To describe the audience size of the Spanish-speaking community on Twitch.
- b) To quantify the number of content creators in Spanish on Twitch and their broadcast dynamics.
- c) To analyse the existence of cyclical behaviour patterns among the audience and content creators.

3. Methodology

To gather information for this article, data from the platform Twitch were collected non-stop from 1 December 2021 until 31 January 2022. The period of analysis spanned a total of 62 days or 1,488 broadcast hours. To do this, capture software written in Python that was capable of communicating with Twitch's API was created in-house.³ This software was placed in a server and mined all the data on all the live broadcasts in Spanish in real time. This data mining was done every 30 minutes throughout the entire analysis period, yielding a total of 2,976 samples. This data-mining frequency was determined after finding in previous analyses that greater granularity in the samples does not affect the end result. Each sample contains a complete list of the content creators who were broadcasting live at that precise instant, and for each of them the number of viewers, their position in the ranking (according to audience size), the title of the broadcast and the broadcast category were recorded. This data collection process enabled us to create a database with more than 40 million units of analysis.

We shall focus on the Spanish language because at the time the study was conducted, it was the language on the platform with the second largest absolute audience according to the portal twitchtracker.com, due to the steep increase in viewers that this community has experienced and the increasing presence of the most important content creators in the media on Twitch. The analysis period was chosen because it contained a mix of

work weeks, vacation periods and holidays, which enabled us to observe the effects of these changes on the dynamic of the audiences and content creators. Finally, all the time references are in GMT +1, that is, the time zone of peninsular Spain.

The data on the language and the activity during the live broadcast are not automatically detected by Twitch; instead, the streamer has to declare them before and during the broadcast. Therefore, a live broadcast can be located in different content categories depending on the time and activity. It is important to remember that Twitch has a transnational reach, so audience data should be attributed not to countries but to language communities. When we talk about streamers in Spanish and their respective audiences, we are referring to a transnational community that is not limited to any governmental boundary. The concept of 'Spanish-speaking', in turn, encompasses all the varieties of Spanish existing in the world.

Finally, just as with other platforms and media, the numerical audience figure corresponds to the number of unique receiving devices consuming a given content, meaning that it is impossible to establish how many real viewers exist behind each receiving device. For this study, a receiving device was considered to correspond to one viewer, as this assumes the minimum number of viewers possible.

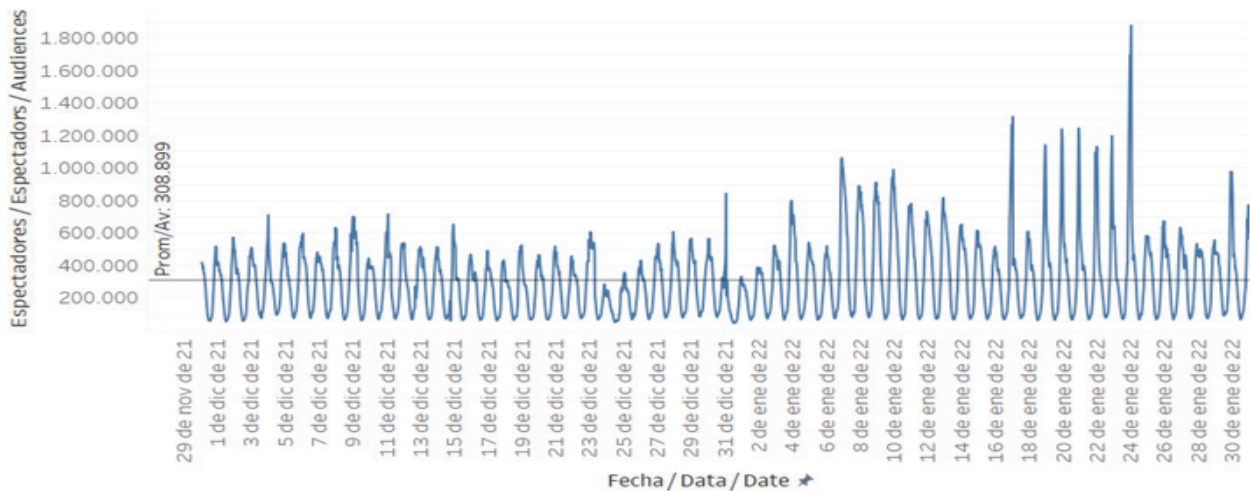
4. Results

4.1 Audience data

In absolute terms, the average aggregate audience of contents in Spanish broadcast on Twitch during the period analysed is 308,899 viewers. This figure fluctuates notably depending on the time of day and increases considerably when there are special events. As shown in Graph 1, there is cyclical behaviour in the audiences, which create a daily pattern. If we take the aforementioned average audience as a reference, we find an 'off-peak' period from 5 am to 4 pm. During this time bracket, the audience is lower than the average and reaches a minimum of between 60,000 and 70,000 viewers, usually at 11 am. On the other hand, there is a 'peak' period between 4 pm and 5 am. During this time range, the audience is above the average and increases quickly until reaching its peak between 8 pm and 10 pm, with 500,000 to 700,000 viewers. This alternation between off-peak and peak hours takes place daily and without interruption, which indicates the existence of stable, consolidated and predictable consumption patterns.

In the period analysed, we find occasional moments when the audiences grow far above the usual rates, so it is pertinent to conduct a detailed analysis of them in order to understand some of the dynamics on the platform. The first of these 'anomalous' peaks took place on 31 December 2021, with a peak audience that reached 843,244 viewers right before midnight (see Graph 1). This increase corresponded to the live broadcast of the Spanish streamer Ibai Llanos, along with the TV host Ramon García, from Madrid's Puerta del Sol as the bells tolled in the

Graph 1. Evolution of the audience in Spanish-speaking channels in Twitch from December 1, 2022 to January 31, 2022



Source: Authors.

New Year. At peak audience, this broadcast garnered 801,079 simultaneous viewers, capturing 94.99% of the Spanish-speaking audience available on the platform at the time.

The second event worth attention took place on 7 January 2022. On the afternoon of that day (peninsular Spanish time zone), the audience grew to reach 1,063,768 viewers at 10:30 pm. This growth dovetailed with a collaborative event among streamers from different countries known as ‘Egoland’, where 99 participants played the survival videogame ‘Rust’ (Brugat, 2022).

The third milestone was on 17 January, when a figure of 1,316,780 viewers was reached (78% of the Spanish-speaking audience on the platform) in a single broadcast, dovetailing with the live broadcast of the ‘Island’ awards ceremony for content creators on Twitch and YouTube held at the Palau de la Música Catalana and organised by the streamer David Cánovas (alias ‘TheGrefg’). Unlike the other two peak audiences, this time the broadcast managed to sustain a large audience throughout the entire broadcast period, surpassing one million viewers for four hours.

The fourth and last major milestone in the Spanish-speaking Twitch community during the period analysed started in the afternoon of 19 January 2022 with the premiere of a new collaborative serial event associated with the videogame *Minecraft*, in which the trials in the Netflix series ‘The Squid Game’⁴ were recreated over the course of six days. Even though the event was organised by the leading Spanish-speaking streamers, it was celebrated under the aegis of the ‘Twitch Rivals’, an official series of matches in which Twitch participates as the organiser,⁵ where the winner earns a cash prize of 100,000 USD. In addition to the live broadcasts by the content creators themselves from their own Twitch channels, the platform also made an official broadcast with commentators, where it was possible to see the different vantage points of

each participant. During the moment of peak audience on Twitch at 9 pm, the figure of 1,143,192 viewers was reached, approximately 83% of whom (around 950,000 viewers) were following some broadcast related to this event.

The contest sustained an audience higher than one million viewers throughout the event, beating the audience record within the period analysed on the night of 24 January 2022 at 11 pm, with 1,878,485 viewers, dovetailing with the final match, where the players vied for the prize live. Approximately 1,720,103 viewers (91%) were connected to some channel related to the event. Of them, 1,208,144 (70%) were watching the final in a single broadcast, specifically the one by the streamer known as ‘El Xokas’, a finalist in the event.

4.2. Content creators

During the period analysed, a total of 964,698 unique people participated in the platform as content creators in Spanish, with an average of 10,207 unique broadcasts per day. Just as with the audiences, there are considerable fluctuations throughout the day, with off-peak and peak hours (see Graph 2). The off-peak hours, where the volume of streamers is below the average, span from 6 am to 7 pm. During this period, a minimum of around 3,000 broadcasts is reached at 11 am. In contrast, the hours when the volume is higher than the average span from 7 pm to 6 am, reaching a maximum of around 18,000 live broadcasts at around 4 am. Just as with the audiences, the live broadcasts follow a cyclical pattern that is repeated on a daily basis.

Despite the number of users participating on the platform, there are differences in the division of labour or level of dedication in terms of the number of hours broadcast. The total aggregate live broadcast hours is 16,326,566, and the average broadcast per streamer is 16.92 hours. However, 77.64% of the streamers broadcast less than this average, and

their contribution to the aggregate volume of broadcast hours is 18.72%. To further explore this irregular contribution to broadcast hours, we found that 233,160 users (24.17% of the total) broadcast an hour or less throughout the entire period, and their contribution to the total hours only accounts for 1%. In contrast, 22.36% of the streamers broadcast more than this average, and their contributions accounted for 81.28% of the hours broadcast throughout the entire period analysed.

Graph 2, which specifically shows 4 December 2021 at 10 pm, illustrates a steep increase in the number of content creators broadcasting on the platform. This anomaly dovetails with a very brief special event on the videogame 'Fortnite', one of the most popular on the platform, which was broadcast simultaneously by many users (more than 35,000). However, the increase in the number of streamers had no notable effect on the audience volume on the platform (see Graph 1 on the same period), and it was extremely brief and localised, lasting less than 30 minutes.

4.3. Audience distribution

The audience distribution among all the broadcasts available during the period analysed is far from being equitable. Of the 964,698 users who participated in the platform as content creators, 35,913 (3.73%) had no viewers. Another 509,658 (52.83%) had an average of 1 viewer. That is, nobody saw more than half the Twitch broadcasts in Spanish.

During peak audience hours (from 4 pm to 5 am), 76.29% of the viewers were concentrated around the 100 leading streamers. That is, 0.97% of the audiovisuals available captured most of the audience. There are substantial differences even within these top 100 streamers, as on average, 40.29% of the total viewers on the platform were concentrated around the top 5 streamers (see Table 1). This polarisation is also found during

the platform's off-peak hours (from 5 am to 4 pm), where the top 100 streamers continued to capture a large portion of the viewers, with an average of 67.88% of the total. However, within this segment, the audience division is more equitable in this time bracket, and the top five streamers each earned an average of 25.83% of the audience.

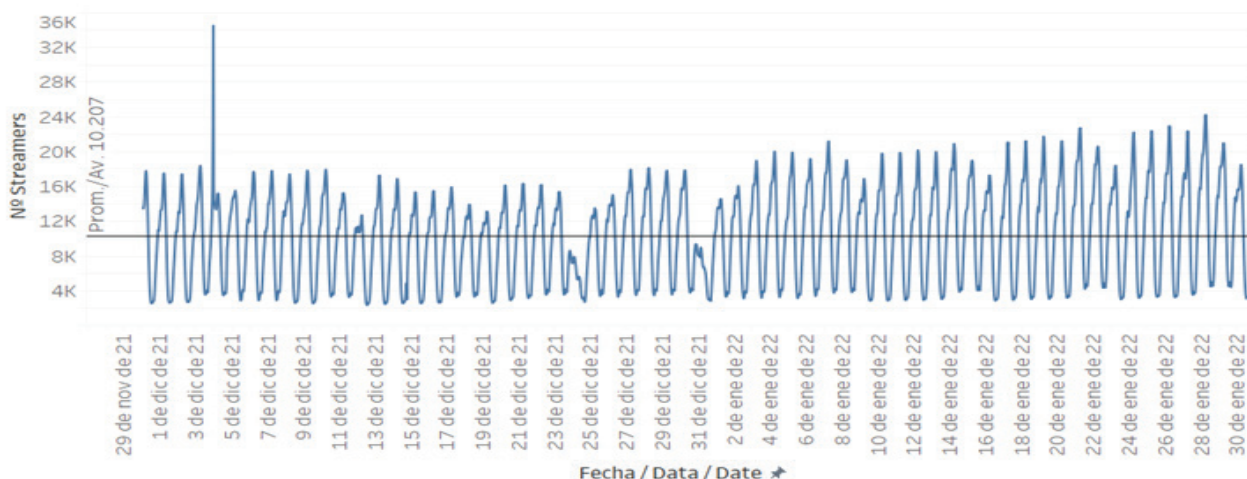
The average audience for a streamer in the top 100 is 2,335 viewers any time of day, while the average for the others is 8 viewers. As described above, the dispersion of the numbers in these groupings is quite high, as the top-ranked streamer regularly reaches an average of almost 79,759 viewers, while the positions ranked close to 100 have an average of 157 viewers.

So far, we have discussed the off-peak hours and peak hours in the data. These concepts apply to both the size of the audience consuming contents on the platform and the number of streamers broadcasting live. As Table 2 summarises, we can see that these cycles do not match. The maximum audience on the platform usually occurs at around 10 pm, while the maximum number of streamers broadcasting simultaneously comes at 4 am. However, what does match is the minimum audience with the minimum number of simultaneous streamers at 11 am.

To show the 'asynchrony' in the audience and content creator numbers, we took a small sample spanning from 18/12/2021 to 21/12/2021. Graph 3 exemplifies the lack of coordination between the number of people broadcasting live and the audience numbers on the platform. This is a pattern that is repeated on a daily basis throughout the entire period analysed, which was only broken by the special events described above.

Graph 3 shows how the audience volume grows progressively throughout the afternoon and evening until reaching a maximum between 8:30 and 10 pm (peninsular Spanish time zone). After

Graph 2. Volume of Spanish-speaking streamers in Twitch from from December 1, 2022 to January 31, 2022



Source: Authors.

this peak, the audience suddenly drops off, stabilises at around 1 am and then enters off-peak hours. In turn, the number of simultaneous streamers starts to rise in the afternoon and evening, just as audience numbers are rising. But this growth is broken (or even declines) during the peak audience hours. After that time, the number of people broadcasting live shows another upswing (in a staggered fashion) until reaching the peak at around 4 am, with a large concurrence of streamers from Latin America.

With this detailed analysis, we also found that the maximum audience time dovetails with the simultaneous presence of the leading Spanish-speaking streamers, namely Auronplay, Ibai Llanos, TheGrefg and El Rubius, among others, all of whom broadcast from the Iberian Peninsula (Spain or Andorra). The end of their broadcasts dovetails with the drop in audience on the platform and the simultaneous launch of a host of new live broadcasts from small content creators.

5. Discussion and conclusions

This article has placed the live streaming platform Twitch within the context of the entertainment industries and focused on its broadcast and consumption dynamics. A priori, Twitch is described as a digital platform based on contents generated by non-professional users and live consumption. However, the results of this study reveal a process of industrialisation, professionalisation and standardisation which can be described using concepts associated with TV audience studies.

Table 1. Audience average of Spanish-speaking channels on Twitch by position segments in the ranking

Place	Audience at peak hours (%)	Average audience at peak hours	Audience at off-peak hours (%)	Average audience at off-peak hours
Average	100%	443,181	100%	120,490
Top 100	76.29%	338,112	67.88%	81,791
Top 5	40.29%	178,576	25.83%	31,123
1 st ranked	17.99%	79,759	11.69%	14,093
2 nd ranked	8.99%	39,870	5.23%	6,307
3 rd ranked	5.92%	26,243	3.62%	4,371
4 th ranked	4.21%	18,667	3.10%	3,747
5 th ranked	3.16%	14,037	2.38%	2,879

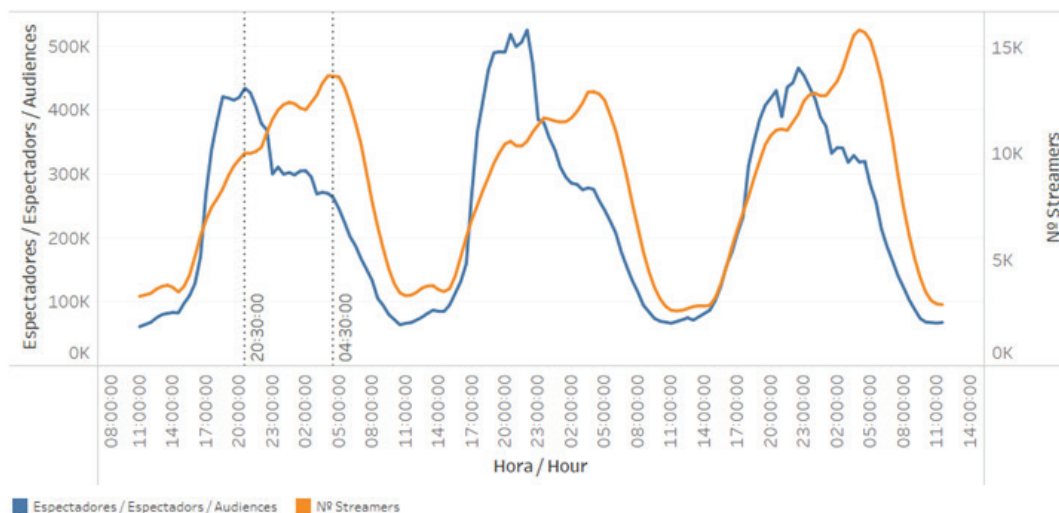
Source: Authors.

Table 2. Summary of the distribution of peak hours and off-peak hours in streamers and audiences (peninsular Spanish time zone)

	Off-peak hours	Minimum hour	Peak hours	Maximum hour
Audiences	5 am to 4 pm	11 am	4 pm to 5 am	10 pm
Streamers	7 am to 7 pm	11 am	7 pm to 7 am	4 am

Source: Authors.

Graph 3. Comparison between the daily cycles of Spanish-speaking audiences and streamers on Twitch (peninsular Spanish time zone)



Source: Authors.

5.1. Cyclical and polarised audiences

Bearing in mind the cyclical audience behaviours, and drawing a parallel with the programming logics of TV, there is a clear alternation between broadcasts during prime-time and low competition time brackets. The data analysed show that this alternation in cycles is stable and that maximum and minimum audiences are reproduced regularly, which enables us to claim that Twitch is a consolidated platform and that audiences go there regularly to consume its contents.

The existence of 'off-peak' and 'peak' hours affects not only the volume of viewers but also the audience's division among all the audiovisual contents available. During 'prime-time' hours, the viewing public tends to concentrate around just a few broadcasts, while during the times with lower audiences the division is more equitable. Nonetheless, in absolute terms, the audiences in Twitch are polarised. A very small group of streamers (less than 1%) captures between 67% and 76% of the audience available on the platform at any time of day, and there are even substantial differences within this small group of content creators (see Table 1).

The surge in entertainment contents means that it is increasingly difficult to draw (and keep) viewers' attention, as they are a scarce good according to the attention economy paradigm. Only a few contents manage to attract large audiences, while the others remain niche or often even residual. In this sense, the vast catalogues of the major SVoD services also work under this dynamic, in which a small number of titles reach the majority of subscribers while consumption of the rest of the catalogue is highly individualised.

As noted in the results, daily broadcasts are complemented with the programming of special events. Some of them, like the 'Esland' awards ceremony organised by the streamer TheGrefg and the bells tolling in the New Year, featuring Ibai Llanos and Ramón García, have a format that clearly echoes TV, and they are produced with professional technical and human resources. These special events, which reach huge peak audiences, are an opportunity to capture new viewers unfamiliar with the platform's own codes. However, the data analysed do not show clear indications that this audience is retained, and viewer figures tend to stabilise a few days later.

5.2. Amateur versus professional streamers

Among all the data analysed, we can make out three clearly distinct groups of content creators. The first is a group of users (24.17% of the total) who have broadcast one hour or less throughout the entire period, and their contribution to the overall calculation of total hours is just 1%, which indicates that they spontaneously and almost accidentally dabbled in the platform. The second group, which is in the majority (53.47%), is comprised of streamers who operate in a totally amateur way, who only contribute to generating 17% of the content. Finally, there is a third group of streamers (22.36%) who broadcast regularly and whose efforts have generated 81.28% of the

content. Therefore, we can conclude that only 1 out of ever 4 streamers participating on Twitch does so regularly and shows some degree of professionalisation or commitment.

Within this small group of professionalised streamers who seem to be committed to the platform, we find names like Auronplay, Ibai Llanos, TheGrefg and El Rubius, and their reach and dynamic are similar to those of the mass media. They show clear daily broadcast routines following the parameters of the horizontal programming of linear TV, a concept detected back in the 1970s in general TV channels (Williams 1974). Setting clear broadcasting times generates routines in viewers' lives that help to stabilise and ensure a high number of total viewers on a daily basis. These production routines, coupled with the use of technical resources superior to those of other more modest streamers, enable us to draw a clear dividing line between those who participate on Twitch as professionals and those who dabble in it occasionally or in a totally amateur fashion.

5.3. Abundance of content in a highly competitive environment

The division between amateurs and professionals becomes evident when we see that more than half the broadcasts analysed (52%) have just one viewer, and it may well be the streamer him/herself monitoring his/her broadcast live via a second window. This figure highlights the aforementioned audience polarisation, yet it also reveals the difficulties that many streamers encounter capturing audience attention.

The figures indicate that Twitch is a highly competitive environment where there is a tendency towards audience concentration while a vast number of contents remain invisible due to both the abundance of content and the unique features of the platform and design of its interface. This has led many small streamers to come up with broadcast strategies. For example, during peak audience hours, we find the concurrence of the most popular content creators in Spanish, yet this time does not dovetail with the highest volume of simultaneous streamers (see Graph 3), and at times the volume of contents actually decreases. This dynamic reveals that many content creators do not want to compete for their share of the audience during the same time bracket as the major streamers and instead prefer to start their broadcasts when the large streamers sign off in an attempt to capitalise on the orphaned viewers who are looking for a broadcast to join. This is similar to the audience retention techniques used in vertical flows on TV line-ups. This strategy may explain the exponential surge in live broadcasts when the major streamers go off-air.

However, the end of the broadcasts of the major streamers also dovetails with a clear drop in audiences on the platform. That is, a significant number of viewers show interest in a specific streamer and only consume contents when they are live, and then leave the platform as soon as the broadcast is over. This dynamic reveals viewers' behaviour and consumption patterns, but it also sheds light on the competition faced by smaller

streamers, as the audiovisual contents increase precisely when the available audience decreases, thus considerably heightening the difficulty of attracting viewers.

Despite everything, it is important to recall that the logic used to measure success on Twitch is different than on other platforms, and audience volume is not a metric that automatically translates into larger economic returns. The existence of a large unmotivated, casual audience gives the streamer no direct profit, while small, highly cohesive and committed communities of viewers can lead to significant income. Coupled with the low production costs, this means that a streamer can earn a profit or even professionalise their work if they manage to win the loyalty of a small audience.

To conclude, in the past decade we have watched as viewers have distanced themselves from linear TV and synchronous consumption (European Audiovisual Observatory, 2022). This trend has been further reinforced by the increasing presence of VoD content services and other digital content platforms. Just when it seemed that viewers wanted to decide when to view a given content outside the rigid linear TV programming line-ups, Twitch is clearly focusing on live contents. Within this context, the platform is a 'rara avis' by proposing content whose value lies in synchronous consumption and live interaction between audiences and broadcasters. The viewer figures described in the results reveal that there is still an interest in these forms of consumption, and in this sense, it is possible to venture a guess that audiences' disaffection for TV may be motivated by the contents, formats and forms of production instead of necessarily by the consumption model.

5.4 Future research

This study aims to be a preliminary general examination of Twitch in the Spanish-speaking world, which enables us to frame the platform as a mass medium in a highly competitive environment with hyper-fragmented audiences. There is a clear need to perform interpretative studies with qualitative methodological frameworks that could address issues like the audiovisual formats used by the streamers and the types of content, in order to understand both viewers' needs and production trends. From the sociological and anthropological standpoint, it is relevant to view Twitch as a new medium whereby cultures, ideas and values are shared, a function that the media like TV, radio and the press have traditionally fulfilled. Likewise, it is essential to analyse the content creators and their audiences from the gender perspective, as we have found an absence of women among the most prominent streamers. Finally, despite the difficulty in circumscribing audiences to specific geographic regions, it would be highly relevant to conduct comparative studies that could compare Twitch's reach with that of TV.

Notes

1. In July 2022.
2. Twitch VoD: <https://help.twitch.tv/s/article/videos-on-demand?language=es>
3. For more information on Twitch's API, see: <https://dev.twitch.tv/docs/api/>
4. Netflix did not participate in the production of the event.
5. Twitch Rivals: <https://twitchrivals.com/>

References

- Beil, B., Freyermuth, G. S., & Schmidt, H. C. (2021). *Paratextualizing Games: Investigations on the Paraphernalia and Peripheries of Play*. Transcript Verlag. <https://doi.org/10.1515/9783839454213>
- Bolter, D. J., & Grusin, R. (1999). *Remediation: Understanding New Media*. MIT Press.
- Bourdon, J. (2000). Live television is still alive: On television as an unfulfilled promise. *Media, culture & society*, 22(5), 531-556. <https://doi.org/10.1177/016344300022005001>
- Brugat, M. (2022). *Egoland 2: Regresa el evento de 'streamers' que arrasa en Twitch*. Lavanguardia.com, January 11. <https://bit.ly/3IP9vgn>
- Caplan, R., & Gillespie, T. (2020). Tiered Governance and Demonetization: The Shifting Terms of Labor and Compensation in the Platform Economy. *Social Media + Society*, 6(2). <https://doi.org/10.1177/2056305120936636>
- Carroni, E., Madio, L., & Shekhar, S. (2021). Superstar exclusivity in two-sided markets. *SSRN Electric Journal*, 53 p. <http://dx.doi.org/10.2139/ssrn.3243777>
- Couldry, N. (2004) Teaching us to fake it: The ritualized norms of television's "reality" games. In: S. Murray, & L. Ouellette. *Reality TV: Remaking television Culture* (p. 57-74). New York University Press.
- Delgado, M., Navarro, C., Garcia-Muñoz, N., Lluís, P., & Paz, E. (2018). TV news and social audience in Europe (EU5): On-screen and Twitter Strategies. *Observatorio (OBS*)*, 12(4), 107-124. <https://doi.org/10.15847/obsOBS12420181317>
- El País* (2014). *Amazon compra la web de videojuegos Twitch por 735 millones de euros*. *El País*, August 26. <https://bit.ly/2HeqkAr>
- European Audiovisual Observatory. (2022). *Yearbook 2021/2022: Key trends*. European Audiovisual Observatory. <https://bit.ly/3ylwkhj>
- Flores-Saviaga, C., Hammer, J., Flores, J. P., Seering, J., Reeves, S., & Savage, S. (2019). Audience and Streamer Participation at Scale on Twitch. *Proceedings of the 30th ACM Conference on Hypertext and Social Media (HT '19)*, 277-278. <https://doi.org/10.1145/3342220.3344926>

- Förderer, J., & Gutt, D. (2021). *The Effects of Platform Superstars on Content Production: Evidence from Ninja*. 39 p. <https://bit.ly/3zq5vjH>
- Freire, F. C. (2008). Las redes sociales trastocan los modelos de los medios de comunicación tradicionales. *Revista Latina de comunicación social*, 11(63), 277-286. <https://bit.ly/2lqeNbX>
- Gandolfi, E., Ferdig, R. E., & Clements, R. (2022) Streaming code across audiences and performers: An analysis of computer science communities of inquiry on Twitch.Tv. *British Journal of Educational Technology*, 53(6), 1688-1705. <https://doi.org/10.1111/bjet.13207>
- Gros, D., Hackenholt, A., Zawadzki, P., & Wanner, B. (2018). Interactions of Twitch Users and Their Usage Behavior. *Social Computing and Social Media. Technologies and Analytics, Proceedings, Part II*, 201-213, Springer International Publishing. https://doi.org/10.1007/978-3-319-91485-5_15
- Gutiérrez Lozano, J. F., & Cuartero, A. (2020). El auge de Twitch: Nuevas ofertas audiovisuales y cambios del consumo televisivo entre la audiencia juvenil. *Ámbitos. Revista Internacional de Comunicación*, 50, 159-175. <https://doi.org/10.12795/Ambitos.2020.i50.11>
- Gutiérrez Lozano, J. F., & Cuartero, A. (2022). La construcción mediática de los ídolos juveniles de Twitch: Los creadores de contenido y su presencia creciente en los medios españoles. *adComunica*, 23, 251-274. <https://doi.org/10.6035/adcomunica.5936>
- Hilvert-Bruce, Z., Neill, J.T., Sjöblom, M., & Hamari, J. (2018). Social motivations of live-streaming viewer engagement on Twitch. *Computers in Human Behavior*, 84, 58-67. <https://doi.org/10.1016/j.chb.2018.02.013>
- Jacobs, N., & Booth, P. (2021). Converging experiences, converging audiences: An analysis of doctor who on Twitch. *Convergence*, 27(5), 1324-1342. <https://doi.org/10.1177/1354856520976447>
- Kampel, S., Koban, K., Bornemeier, J., & Ohler, P. (2020). *The downsides of being a female streamer. An automated content analysis approach to sexual harassment in female Twitch streamers' chatlogs. 70th Annual ICA Conference*. <https://doi.org/10.13140/RG.2.2.30265.49764>
- Le, H., Wu, J., Yu, L., & Lynn, M. (2021). A Study on Channel Popularity in Twitch. *arXiv*, preprint [arXiv:2111.05939](https://arxiv.org/abs/2111.05939).
- Lobato, R., & Lotz, A. D. (2020). Imagining global video: The challenge of Netflix. *JCMS: Journal of Cinema and Media Studies*, 59(3), 132-136. <https://doi.org/10.1353/cj.2020.0034>
- Narassiguin, A., & Garnès, V. (2020). *The influence of COVID-19 on Twitch audience: How lockdown measures affect live streaming usage?*, 9 p. <https://bit.ly/3OwKB6N>
- Nematzadeh, A., Ciampaglia, G. L., Ahn, Y. Y., & Flammini, A. (2019). Information overload in group communication: From conversation to cacophony in the Twitch chat. *Royal Society Open Science*, 6(10), 191412. <https://doi.org/10.1098/rsos.191412>
- Olsson, M. (2018). "True gamer" culture on Twitch and its effect on female streamers. [Master Thesis]. Malmö Universitet/Kultur och samhälle. <https://bit.ly/3zfcCes>
- Poyane, R. (2019). Toxic communication on twitch.Tv. Effect of a streamer. *International Conference on Digital Transformation and Global Society*, DTGS 2019, 414-421. https://doi.org/10.1007/978-3-030-37858-5_34
- Pozo-Sánchez, S., López-Belmonte, J., Fuentes-Cabrera, A., & López-Nuñez, J. A. (2021). Twitch as a technopedagogical resource to complement the flipped learning methodology in a time of academic uncertainty. *Sustainability*, 13(9), 4901. <https://doi.org/10.3390/su13094901>
- Prado, E.; Delgado, M., García-Muñoz, N., Monclús, B., & Navarro, C. (2020). General-television programming in Europe (UE5): Public versus commercial channels. *El profesional de la información*, 29(2). <https://doi.org/10.3145/epi.2020.mar.04>
- Raats, T., Evens, T., Ruelens, S. (2016). Challenges for sustaining local audio-visual ecosystems: Analysis of financing and production of domestic TV fiction in small media markets. *The Journal of Popular Television*, 4(1), 129-147. https://doi.org/10.1386/jptv.4.1.129_1
- Radošinská, J. (2017). New trends in production and distribution of episodic television drama: Brand Marvel-Netflix in the post-television era. *Communication today*, 8(1), 4-29. <https://bit.ly/3ScsrJ8>
- Scully-Blaker, R., Begy, J., Consalvo, M., & Ganzon, S. (2017). Playing along and Playing for on Twitch: Livestreaming from Tandem Play to Performance. *Proceedings of the 50th Hawaii International Conference on System Sciences*. <https://doi.org/10.24251/HICSS.2017.246>
- Sheng, J. T., & Kairam, S. R. (2020). From Virtual Strangers to IRL Friends: Relationship Development in Livestreaming Communities on Twitch. *Proceedings of the ACM on Human-Computer Interaction*, 4(CSCW2), 1-34. <https://doi.org/10.1145/3415165>
- Simon, H. A. (1971). Designing organizations for an information-rich world. In: M. Greenberg (Ed.). *Computers, communications, and the public interest* (p. 37-72). The John Hopkins Press.
- Sjöblom, M., Hamari, J. (2016). Why do people watch others play video games? An empirical study on the motivations of Twitch users. *Computers in Human Behavior*, 75, 985-996. <https://doi.org/10.1016/j.chb.2016.10.019>

- Steinbeck, H., Teusner, R., & Meinel, C. (2021). Teaching the Masses on Twitch: An Initial Exploration of Educational Live-Streaming. *Proceedings of the Eighth ACM Conference on Learning@ Scale*, 275-278. <https://doi.org/10.1145/3430895.3460157>
- Straubhaar, J. D., Santillana, M., Joyce, V. de M. H., & Duarte, L. G. (2021). *From Telenovelas to Netflix: Transnational, Transverse Television in Latin America*. Springer. <https://doi.org/10.1007/978-3-030-77470-7>
- Tammy Lin, J. H., Bowman, N., Lin, S.-F., & Chen, Y.S. (2019). Setting the digital stage: Defining game streaming as an entertainment experience. *Entertainment Computing*, 31, 100309. <https://doi.org/10.1016/j.entcom.2019.100309>
- Williams, R. (1974). *Television: Technology and cultural form*. Routledge.
- Wolff, G. H., & Shen, C. (2022). Audience size, moderator activity, gender, and content diversity: Exploring user participation and financial commitment on Twitch.Tv. *New Media & Society*. <https://doi.org/10.1177/14614448211069996>