

Beyond Streaming: Twitch's Economic and Creative Impact in Gaming

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Abstract

The integration of the internet with digital games has catalyzed significant transformations in the production, distribution, and consumption within the gaming industry. A notable catalyst in this evolution is the advent of live-streaming platforms, particularly Twitch. This study employs qualitative meta-analysis to scrutinize 19 scientific studies, aiming to synthesize a comprehensive interpretation of Twitch's role and influence in the digital gaming arena. Our analysis reveals Twitch's multifaceted impact: it is a driving force in the digital economy, facilitating new job creation, diverse revenue streams for industry participants, and a fertile ground for innovation and ideation. Twitch has revolutionized the landscape for game designers, producers, and developers, fostering independence and enhancing the quality and quantity of independent game productions. Moreover, it extends the lifespan of games in the market, resurrects interest in older titles, and assists consumers in making informed purchasing decisions. Importantly, Twitch serves as an educational platform, offering insights into specialized gaming industry skills, including design and programming. These roles and functions position Twitch as a pivotal player in the dynamic and burgeoning digital gaming industry.

Keywords: cultural industries, digital economy, digital games, live broadcast platform, streaming, Twitch.

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Introduction

Over the last decade, the gaming industry has undergone profound changes in its processes, platforms, and production models. The advent of accessible, affordable tools has drastically diminished the resources and labor traditionally required in game development. This shift towards economical digital distribution now enables smaller teams to circumvent established channels, ranging from console manufacturers to publishers and retail distributors. There's a burgeoning promise in small-scale game development for fostering independent and creative outputs. This can be viewed as a democratization of game design, made possible by user-friendly development tools and digital distribution platforms, leading to a creative renaissance among individual game creators and small teams.

In parallel, live streaming and platforms like Twitch have emerged as significant themes in media and communication studies and digital sociology, particularly in the context of digital game economics and revenue generation. Prior to the 2008 financial crisis, live streaming and similar online ventures were economically precarious. However, Twitch, launched in June 2011, quickly became popular among professional gamers for broadcasting to their audience. In response, Taylor initiated a gaming section on YouTube in 2012 to rival Twitch. Over time, with acquisitions by major corporations like Amazon and Google of Twitch and YouTube respectively, there has been an expansion of neoliberal influence by large corporations. They aim to occupy the leisure time of consumers and establish a presence in the gaming industry. This shift in neoliberalism strategically targets daily life, seeking to capitalize on personal and human resources. Since 2008, the global accessibility to digital games, increased research funding, and the intertwined use of social media have prompted shifts in labor conditions and wages, as well as in employer-employee dynamics, leaning towards self-employment and creativity.

Consequently, unconventional and creative careers, such as professional gaming, are now seen as both profitable and unpredictable. Livestreaming has evolved into a potentially lucrative avenue on various platforms, particularly Twitch, where streamers can engage with thousands simultaneously. Yet, critical questions arise: How will Twitch reshape the gaming industry? What impact does the digital game economy have on educational opportunities and job creation? What is Twitch's role in promoting independent games and enhancing creative output? Our research aims to address these inquiries through a descriptive and ontological study,

examining live streaming not only as a medium of media production and consumption but also as a pivotal element in the contemporary political economy and the broader video game

Broadcasting of newly released games and the role of streamers in providing information for consumer choice, longevity and emergence of old, new, and independent games under the influence of Twitch, as well as education, learning, and employment possibility of this platform are among other topics that are discussed in this study. This study seeks to understand and report, through a qualitative meta-analysis and descriptive analysis, how the norms and regulations of the Twitch platform are designed, as well as the production and consumption of cultural content in its virtual borders. Because it seems that the models that emerge in terms of infrastructure, software, economy, and culture in this network have important results for creative entrepreneurs, policymakers, trustees, audiences and users, independent producers, and idea makers who are trying to create new digital and online jobs.

Literature review

The console game industry was traditionally dominated by Japanese companies such as Nintendo, Sega, and Sony. This industry is at the center of hardware-software cooperation compared to other cultural industries (Caves, 2000). Henry Jenkins (2000) states that the new generation of games may legitimize digital games as a popular art form; in this new art form, digital art and its convergence with artificial intelligence will play a pivotal role (Aris et al., 2023a). As the films of the late 1910s and 1920s were able to legitimize the nascent cinema. The digital games industry is a kind of new entry into cultural industries and digital games are considered an important and attractive cultural form among the products of these industries. According to Kerr (2006), the digital game industry experienced high growth in the early 21st century, while revenues from recorded music have stagnated or even declined. As Aphra Kerr (2006) points out, games have now surpassed movies. Explosive sales of game hardware have been placed next to their related software and have led to a further jump in this industry. In general, it can be said that as long as leisure time and the expenses for spending it expand, new cultural industries and forms such as digital games will continue to grow without destroying the existing industries of the past. Cultural industries have significant importance in cultural policy. Cultural industry is a type of industrial activity that has its own internal force and dynamics.

Now, politicians and policymakers are increasingly using the term creative industries, and this lexical combination has played a significant role in the changes and developments of cultural policy. Hesmondhalgh (2019) considers the 1990s as the time of the emergence of two concepts of cultural policies that are also related to each other. These two concepts are creative cities and creative clusters. The concept of creative clusters has been taken from Michel Porter (Bagwell, 2008) aims to explain how different nations and regions gain a competitive advantage over other nations and regions. In this regard, entrepreneurship along with innovation and competitiveness has a special place and introduces these industries as the main source of future export earnings. This type of view has caused the definition of creativity to become wider so that in England, in addition to visual arts, dance, and the like, it also includes industries such as software. The implications of this broad definition are for interest groups, coalitions of software manufacturers and multi-purpose companies with small businesses, as well as the emergence of cultural workers.

According to Hawkins, quoting Hesmondhalgh (2019), the creative economy will be the dominant economic model in the 21st century. He believes that innovation and creativity are the foundations of the new economy. Graham and Anwar (2018) also state that there is emerging evidence that platforms are creating global markets for digital jobs, with long and irregular work hours, high stress, and low income; Because creative independence was committed to providing methods based on which people would be convinced to accept work with low and uncertain wages. In fact, these platforms are considered as black boxes of digital businesses. Some of these changes have been for improvement, while extreme uncertainty remains the norm for many creative workers. However, creativity discourses continue to play an important economic role. Creative workers often work tirelessly in difficult situations. Hesmondhalgh (2019) has mentioned that it seems that all cultural workers, creative workers, creative managers, and technical personnel have accepted poor working conditions. In fact, they accept these situations and conditions because of the benefits they receive from participating in creative projects and their glorious results in the world.

1. Small companies, independent productions

Since the 1970s, there has been an increasing emphasis on the value of individual action, and it has been deemed important to

work independently of organizational bureaucracies. This event not only made people eager to open their own businesses, but also encouraged large companies to work with them. This incident has led to the emergence of a network of independent companies instead of a unified organization (Keith & Abercrombie, quoted by Hesmondhalgh, 2019). According to Magder and Boston, quoting Hesmondhalgh (2019), independent producers increased and became important for the discussion about cultural productions. Although large companies dominated cultural industries in the middle of the 20th century, at the same time as these companies became bigger and more dominant, small companies also faced a significant increase in number. For example, in the film industry, based on analysis, 80% of Hollywood films are made by companies with four or fewer employees. Other examples of desirable independence of new cultural industries in the last thirty years include computer games, multimedia productions, educational CDs, and website design.

2. The economy of digital games

The work of digital games is a significant source of financial value generation in contemporary capitalism. According to Wijman (2018), based on a rough estimate, digital game platforms, the expansion of the player population and the expansion of the geographical area have enabled the market of this industry to reach approximately forty billion dollars in revenue per year globally. The social and technical developments of the Internet have changed the way that digital games are produced, distributed, and played. To address this topic, we combine these issues with complementary literature that focuses on software platforms more generally. Much of the literature produced so far has focused on the platformization of work. What all digital platforms have in common is that they offer tools that bring together supply and demand for labor, and in many cases, new platforms offer forms of work and services that undermine relationships. Employment becomes standard; Like the Uber application for small taxis in London, which weakened traditional taxis in this metropolis (Johnson & Woodcock, 2019a).

One of the platforms in the field of digital work, as explained, is the Twitch platform, which is considered to be the most famous live broadcasting platform or streaming phenomenon in the digital games industry. Streamers are the main actors and agents of Streaming work which, as explained by Johnson and Woodcock (2019a), is similar to the concept that Kuklich (2005) stated about “play bor” in

the sense of work-entertainment, and it depends on the elements of free work that is usually more similar to a kind of game than a job, but the darkness of work relations on the one hand and the variety of games, on the other hand, highlights the content that is produced by gamers as a profitable source in the game industry.

According to the explanation of Scholz (2015), the distinctive point of the Twitch platform is that, unlike other work platforms that tend to use the display of innovation to hide the worker, this platform is not used to hide the work of the worker, but Twitch is openly the creator. It shows the content to the global viewers and the work of the streamers is clearly visible in it. Twitch, like YouTube, provides a platform for professional content creators, which provides an opportunity to create new career paths that are used by entrepreneurial creators and through which they can earn a significant income from their activities (Graham & Woodcock, 2018). But the point that connects the above theoretical issues to the topic of our study is that now the live stream, which is known by Twitch in most countries, has become one of the main parts of the Internet flow, and this shows us how the administration and infrastructure of the platforms together with the use of entrepreneurial actors can lead to the creation of new business by the workers and owners of the platforms; In fact, as Toivonen and Sutama point out, citing Hesmondhalgh (2019), the dominance of publishers in the value chain has increased the importance of digital pioneers and intermediaries who control the position of products. This issue has facilitated new career paths in line with the monetization of streaming processes and has led to the emergence of professional streamers, many of whom are trying to find more opportunities in the digital economy.

These professional streamers are building working communities. According to Burroughs and Rama (2015), these communities include gamer observers, gamers, creators and innovators of the game industry, and viewers. In this process, viewers interact with broadcasters and each other in real-time. Johnson and Woodcock (2019b) emphasize that most of Twitch streamers, especially at the beginning of its formation, were independent and amateur people who gradually played an important role with their creativity to spread knowledge and implement changes in the gaming industry. Because in recent years the digital games industry has always been inclined towards creative games. The set of raised theoretical topics indicates the significant capacity of live broadcast platforms

to create changes in the field of digital games in the economic (including production, distribution, and consumption), educational and intellectual fields.

Research background

In 2019, Jennifer Whitson used ethnography in the gaming industry to argue that digital platforms democratize cultural production by supporting small teams. Also, this research tries to show that a new spirit of capitalism is dissolving in the digital games industry and to prevent its growth and domination, attention should be paid to creative independence in this industry. But in his assessment of small, young, and creative teams for the design and development of digital games, he comes to the conclusion that in many projects, instead of valuing young and small teams, large companies with financial facilities, expertise, and extensive technologies are preferred and although everyone can produce and publish games now, still few developers are able to occupy the position of the top and stable jobs.

Nieborg (2017) discussed new ways of monetization in many digital games and concluded that now the income from many games on various platforms, it is not obtained from the initial purchase, but through in-game advertisements and micro-transactions such as the cost of buying virtual goods and access to new levels of the game. Gareth Schott and Maria Kambouri (2006) have discussed social games. Since the social media have changed all aspects of human lives (Qualman, 2012; Nosrati et al., 2023; Aeni et al., 2023; Sabbar & Matheson, 2019; Sarfi et al., 2021; Shahghasemi & Emamzadeh, 2019; Sabbar & Hyun, 2016), they point out that these games use the logic of social networks to encourage communication through virtual relationships, allowing players to refer to other players connected to them on social media. Friends visiting each other's game spaces not only creates a feeling of competition, but also helps to develop these games due to possibilities such as gifting with virtual assets or in-game currencies.

As it is clear, although significant researches has been conducted in the fields related to the current research, each of them has studied only one aspect of the subject; A group of studies has considered independent productions as the focus of their discussion, a group has considered methods of generating income from digital games, and a group has considered the social and network nature of new games and platforms related to them. Therefore, it seems that conducting a wide study that with a broader view, and considering a wider

range of requirements and specifics of platforms for live streaming of digital games, and considering the dimensions and characteristics its diverse and numerous aspects can be considered as an innovative aspect of this research.

Methodology

The qualitative meta-analysis method has been used in the present research. In a meta-analysis, the researcher seeks to deduce the findings, differences, and commonalities in the previous research and use them to reach general and practical results. The advantage of meta-analysis is that it allows researchers to combine the findings obtained from several research and studies, and by integrating the results of different studies, they increase the power of the study to find meaningful results. In fact, meta-analysis seeks to collect research findings from scattered and numerous studies, to combine and integrate them and achieve new findings. The meta-analysis method is carried out in two quantitative and qualitative ways. The purpose of qualitative meta-analysis is to present a comprehensive picture and interpretation of the research that have dealt with a certain topic so far. In fact, the difference and advantage of qualitative meta-analysis compared to quantitative meta-analysis is that the researcher is not satisfied only with the description of previous studies, but also provides an in-depth interpretation of the subject based on the studies and research that have been conducted (Timulak, 2009). Qualitative meta-analysis seeks to discover the basic elements of those researches by integrating scattered and individual researches conducted on a specific subject, conceptualizing their results and general orientations in a new format, and interpreting and explaining those elements and findings. Such a method can also show the problems and shortcomings of the conducted researches and studies.

The unit of analysis in meta-analysis is studies and research related to a specific subject. The unit of analysis of this research is books, articles, and reports related to new platforms for live streaming of digital games, economic mechanisms emanating from them, as well as their role in the emergence of creative forces and independent games in this cultural industry, among them, Topics and related sections of five books, twelve articles and two reports that were more related to the research problem were selected and studied using purposeful sampling. The list of this selected sample and information related to their authors are listed in Table 1.

Table 1. List of titles and features of selected articles, books and reports

	Institute	Title	Name of the author(s)	year of publication
1	University of Minnesota	Live streaming of the game Neoliberal work and personalized media economies	Nicholas Brie Guarriello	2019
2	University of Alberta	The effects of live streaming and Twitch on the game industry	Mark Johnson and Jamie Woodcock	2019b
3	University of Oxford	Platformization of cultural productions: How today's livestreams monetize gamification	Mark Johnson and Jamie Woodcock	2019a
4	University of Alberta	The new spirit of capitalism in the game industry	Jennifer Whitson	2019
5	Oxford University	Cultural industries	David Hesmondhalgh	2019
6	UCLA University	Towards a Fairer Economic Platform: Introducing Fair Work Principles	Graham and Woodcock	2018
7	Vox Media	Amorantheth (streamer), the latest example of the problem of harassing abusive women on Twitch	Julia Alexander	2018
8	University of Oxford	The effects of live streaming and Twitch TV on the video game industry	Mark Johnson and Jamie Woodcock	2019b
9	Routledge	Free game books and app ads: The rise of player commoditization	David Nieborg	2017
10	Routledge	Global Games: Production, Circulation and Policy in the Networked Era	Aphra Kerr	2017
11	Denison University	Interactive online physicality, Twitch and video game streams	Sky Laurel Anderson Witowski,	2017
12	University of Australia	Livestreaming in theory and practice	Rectenwald and Manning	2016
13	University of Nevada	Electronic games Trojan horse article: Twitch and the future of streaming	Burroughs and Rama	2015
14	Deloitte institution	survey reports of media consumers: signal and noise	Deloitte institution	2015
15	Eugene Lang University	Think outside the office; Cooperation alternatives for the common economy	T. Scholz	2015
16	Trinity University Dublin	Meta-analysis of qualitative studies: a tool for reviewing qualitative research findings in psychotherapy	L. Timulak	2009
17	Sage	Business and culture of digital games	Aphra Kerr	2006
18	University of Westminster	From cultural industries to creative industries: analysis of the implications of creative industries with an approach to culture and media policy in England	Nicholas Garnham	2005
19	Harvard University	Creative industries	Richard Caves	2000

Findings

Twitch is a live streaming platform with a strong focus on streaming and viewing video game content. This website is focused on creating a platform for streaming video games. Referring to the research of Johnson and Woodcock (2019b), Twitch had 100 employees at the end of 2013, and a significant investment was made in it, then Amazon invested \$970 million in this platform in 2014. Over the past five years, Twitch's traffic and influence have grown rapidly, making it a staple of the video game industry and a growing force in the global media ecosystem. For example, in 2016, Twitch was watched for 292 billion minutes, and in 2017, that number reached over 350 billion minutes. In both 2017 and 2018, between 100 and 200 million people were consistently watching Twitch. At the time of writing this article, this website has become the 28th most visited website in the world, and in this ranking, it is above of famous websites such as MSN and eBay.

Although the YouTube website is also a platform that generally operates in the field of video content and live broadcasting, Twitch is a platform that specializes in the field of digital games. Kim (2012) explains the difference between these two platforms as follows: YouTube has a live platform, but streaming is only part of the site's overall content production, which mainly includes non-live and recorded content. YouTube content is usually produced for free and mostly depends on the profit from advertising, but Twitch is designed to gain long-term support as well as the motivational and financial support of viewers and seeks long-term investment. Also, YouTube often does not have a strong financial system like Twitch.

Therefore, as Cunningham and Craig (2019) acknowledge, Twitch can be defined as an entertainment website among social media. Violence is a rampant subject in studying online and computer games (Shahghasemi, 2018) but this website is an interactive media that offers a combination of traditional social media elements and entertainment that seemingly create a less violent environment. In this platform, amateur content production and closeness between producers and consumers are emphasized, and its diverse dimensions make it an exemplary website for the study of software platforms for cultural productions. As an example of the influence of the Twitch platform in the game industry, we can mention the Rocket League game. When Rocket League 2015 debuted on Twitch, an unusual combination in soccer where cars were the players on the field instead of human agents. It became amazingly popular. In the first month after its launch, Rocket League jumped from the 165th game to the top five games, resulting in more than 5 million

downloads. In continuation and in line with the explanation of how to design the norms and regulations of the Twitch platform as well as the production and consumption of cultural content within its borders, we will first focus on the various ways that streamers use the content of their channels to earn money on the Twitch platform. Then, we will discuss the other functions of this platform for live broadcasting of digital games.

1. Membership fee

Johnson and Woodcock (2019b) point to the use of subscription rights as the most important source of income for streamers. Subscription is one of the strategies to make money from this platform. Twitch believes that streamers should strive for a close relationship with the audience, and this live streaming platform can have a close interaction with its users. Often streamers show their subscriber count, sometimes the streamer shows their target subscriber count. In small streams, we see streamers who have at least five subscribers per day, while in larger streams, this amount can be tens or even hundreds of people per day. The Twitch platform acts as an intermediary between the streamer and the viewer and reduces variable costs. In exchange for the subscription, the viewer receives a wide range of benefits; Among them are emojis or small images that are used to express special feelings or jokes, or symbols that show their status in the dialog window. But this subscription right that we talked about is related to streamers and Twitch has also defined a membership mechanism for its users, of course, it is possible for users to access some of its features and services without membership. The monthly cost of membership in the Twitch platform is \$4.99 for the first category, \$9.99 for the second category, or \$24.99 for the third category. Twitch initially started by offering only the first category, and the second and third categories were added after the purchase of the platform by Amazon. Additionally, viewers are offered a free subscription if they subscribe to Amazon Prime. This membership upgrades a Twitch user's status to Twitch Prime and brings various benefits, including a free annual subscription for one streamer that must be renewed every thirty days.

2. Donation and encouragement

There are other ways on Twitch that viewers can pay streamers and get recognition in return. In his study, Anderson (2017) mentioned two of these methods, i.e. donation and encouragement. The donation, as the name implies, technically takes place outside the platform; But

encouragement is a method of donation that was added sometime after Twitch was founded. At first, there was no possibility for this type of monetization on Twitch, and the streamers shared a web portal in the chat that allowed the donor to make payments through it. In response to the growth and increase of these donations, Twitch introduced Bits. Bits are an in-platform currency that can be used to encourage a streamer. Each user can buy bits at a variable rate such as US\$1.4 per hundred bits. In addition, Bits can also be earned by users by watching ads. The streamer receives roughly \$1 for every hundred bits paid on their live stream. In chats, these bits can be bought and sold.

3. Advertising

Advertisements have always played an important role in traditional media as well as new media such as the Internet. Advertisements also have an important presence on highly visited websites such as Facebook and Google, which interact with people. Some platforms, such as YouTube, have based their business model on making money from content production through advertising, which is also a central issue for the Twitch platform. The increase in favor of advertisers to these new platforms is also related to the consumption trends of other media, especially the decrease in the consumption of print, television, and radio newspapers. According to Deloitte's media consumption analysis database in 2015, Twitch has therefore positioned itself as a platform between online video consumers (viewers) and potential advertisers. As claimed by Twitch, this website is now the most popular platform for video games. Now games and players have become social, film is their language and Twitch is their platform. This makes Twitch, in addition to being an intermediary between users and content, a gatekeeper that can offer different access and strategic advertising solutions in a social video environment. These developments mean that audiences can watch ads as part of the gaming experience. Companies are looking to put their name and brand on everything they can and they want to reach a different and diverse crowd and present their name in that crowd; Streamers also draw the audience's attention to advertisements. Ads on Twitch can be all kinds of games, hardware, energy drinks, snacks, or accessories related to the game.

4. Sponsoring

In this way, publishers and developers offer contracts to streamers that pay them money in exchange of streaming newly released games. These agreements are facilitated by Twitch. Johnson and Woodcock (2019b)

point out that this possibility creates a special feeling in streamers and causes them to consider themselves as a part of the game industry when an offer comes from companies like EI, Microsoft and Nintendo. Therefore, we see a mutually beneficial and win-win relationship for both parties. In some cases, the sponsors are outside the game industry and other business owners. This strategy is the fourth main way of generating income for live broadcasters or streamers. A streamer must first build an audience, earn their trust, and then negotiate with companies for advertising or sponsorship. In many cases, the products of sponsoring companies or advertisers are displayed next to streamers' pages; In this case, the audience of a streamer can click on the sponsor's website through his channel to buy some products or services at a lower price. In this process, an amount is allocated to the streamer for each purchase.

5. Competitions and expressing goals

The fifth method of making money is the extensive use of tournaments and goals on Twitch. Many streamers have set goals for themselves that are shown on their channels. This may be an element of their streaming coverage that tells how much of their supposed amount of money they have earned so far. For example, this element shows that they have so far earned 56 dollars of the 500 dollars they are aiming for; Or it can also indicate how far they are from the desired reward amount. They may go to great lengths to reach a certain amount, for example, tell an entertaining story to their audience or agree to change the music playing on their channel at the request of an audience. In the research he conducted in this regard in 2018, Alexander found that even many female streamers hide their relationships or even talk about them in order to attract more followers and achieve their economic goals. They give unrealistic information to their audience in order to convey a closer and more intimate feeling to them. Also, since the donation and reward system in Twitch is based on payment, it unintentionally becomes a hierarchy in which fans get more rewards in comparison with their donation. For example, a fun emoji is activated for a viewer who donates ten dollars or more. US\$50 or more will always result in the streamer reading the payer's text messages, and finally, when a streamer receives more than a hundred dollars, they will personally thank the donor and mention their name.

6. In-platform games (channel)

The last way to make money through the Twitch platform is the idea of channel games, which are forms of small, non-video games that run

on a Twitch channel. One of the most famous of them is the “Bit Boss” game, which is a downloadable program for a person’s streaming channel, in which the streamer appoints a certain donor as the boss, and other viewers can compete with him by donating more bits. The person who ends up paying the most becomes the boss, and as a reward, their username and donation amount stays on the screen until they are beaten by the next top donor. In this way, donating bit bass becomes a competitive game between people trying to show a streamer “I love you more”. Witkowski, Recktenwald and Manning (2016) also interpret the channel games in the form of collaborative culture and stimulating and turning users into free labor in their research entitled “Livestreaming in idea and Practice” and they also considered them as a tool for the audience to express their gratitude to the broadcasters. The design and implementation of these games also shows that the owners of the Twitch platform allow a high level of personalization to their users, and it seems that this innovative strategy is beneficial for both the platform and its actors. In other words, the only limits on Twitch are the imagination of an entrepreneurial streamer, which apparently has few limits. The rules of this platform are very open and allow a variety of methods through which broadcasters can monetize their personal streams.

7. Twitch; A beneficial platform for the audience

De Vaan, Stark and Vedres (2015) have explained and described the classic way of evaluating video games in research they have done in 2015. According to them, the traditional paradigm of video game evaluation (including introduction and criticism) includes a monologue presented to the consumer, which takes two forms: text evaluation or video evaluation. In textual evaluation, journalists in this field discuss the game as much as they can, which mainly involves presenting the game’s visually impressive and attractive features. There are also limitations in video evaluations, the most important of which is the bias of the evaluator’s opinion, which can affect the audience’s judgment by presenting certain cuts of the game. In the meantime, the Twitch platform has created a new scene of game evaluation, where potential buyers give streamers and their opinions about the game through dialogue and interaction in the evaluation, which is a much broader and more detailed result than they are interested in text evaluations in newspapers and magazines. This approach has gradually led to reviewers presenting their experiences with games as demos in a downloadable version that gives access to a small portion of the

game's content. In other words, Twitch contains a new demo of the game, although instead of player actions, it is directed by streamers. Now every game that is looking for more sales and popularity needs to be streamed at least once on Twitch. Being on this site allows the audience to learn the game in more detail. In this way, instead of just being told a few highlights about the game, the player himself gets to see how the game is played, see the streamer's failures and successes, and understand what the game expects of him moving forward. In this process, a potential buyer as a representative of other viewers may raise a question that is also a question of others; So this encourages him to join other audiences as well.

8. An ideal space for independence

Live streaming is especially important for the success of independent games because these games have to struggle to be seen without advertising budgets from publishers. According to the definition of Martin and Deuze (2009), independent games are games that are produced by small teams that consist of a maximum of ten people and have a creative and main force. By supporting the success of such games, the Twitch platform has become a key element in the ecosystem of independent games and has become a website for increasing the visibility of independent games.

9. Revival of old games

Twitch live streams also help extend the lifespan of older games. In other words, it can be said that Twitch has given a second life to old games and has significantly increased the possible lifespan of a game. This has brought about changes in the thoughts of game developers, due to which game culture and history were placed together. Old games that were extremely popular were revived, played, and sold again in a new form and manner. In fact, many popular old games that now seem to have reached the end of their life will be revived if they are lucky enough to find a competent streamer, and the streamers will show them off as if they were new. Or old but still attractive.

10. Extension to analog games

Another noteworthy point is that Twitch, along with helping the fame and popularity of independent games and reviving some old games, has also increased the demand for analog and non-digital games. Twitch is full of non-digital game streams and activities related to art, and music. Card games and chess-based games like chess are also streamed on

Twitch, and even on its platform, periodic competitions and tournaments related to them are also held.

11. A platform for education

Using games for educational purposes has a much longer history than Twitch has (see for example Shahghasemi, 2020). Live streaming also has a significant impact on the production and development of digital games. Acquiring knowledge of programming, learning to work with game programs, and coding related to them is done through various tools and methods. The Twitch platform is also one of the suitable tools for transferring the knowledge of making, developing, and transforming digital games. In Twitch channels, streamers can design a game step by step in the streams they broadcast, they can also develop game codes and show the audience the process of evolution, modification, and testing of game codes and other software parts and teaching of these is just some of the things that can be learned by streamers.

Discussion and Conclusion

Games are attractive and this attractiveness has lured many industries into gamifying their business (Bagheri, Saeedabadi & Sabbar, 2022a & 2022b). The digital games industry is one of the most pioneering cultural industries at present, and as much as the world has witnessed the decline of media such as newspapers, radio, and even television in recent years and the increasing decline of their audiences, it also sees the rapid growth of this industry and the ever-increasing number of its audience. It is definitely possible to consider the emergence of the Internet and the continued expansion of its influence in the extremes of the world with the increase in bandwidth and the widespread and cheapening of communication technologies among users as the transforming element of the digital games industry. The convergence of this cultural industry with virtual space (see for example Aris et al., 2023b) has been strengthened in a short period of time to such an extent that now it seems difficult to imagine digital games without the Internet, because even in non-online games, updates, fixing defects and flaws, game development and even receiving and downloading it is done on the web platform. The connection of digital games with the Internet, which is an inclusive, cross-border, trans-temporal, trans-spatial, and global-local space, has added irreplaceable, new, and huge capacities to this cultural industry in many fields. Recognizing these capacities and planning to benefit and use them, especially in the fields of culture and economy, has become one of the important strategies

in leading countries such as America and Japan. Taking advantage of the existing models in this field along with modifying, optimizing, and creating innovation in them, as well as adapting them to cultural requirements and considerations, can help others benefit from the opportunities of this leading industry. Make the ends of the world shorter. Therefore, studying these patterns, knowing them in detail, and discovering the main and fundamental elements in their growth, success, and popularity seem essential.

What was studied in this research was one of the current and important platforms of the digital games industry, the Twitch platform. The Twitch platform, whose main functions were reviewed in the findings section by us, with its flexible, non-rigid, and at the same time systematic structure, has significantly provided the ground for the creativity of its audience and users and made a suitable platform for designers and independent developers of digital games. In this research, we studied the transformation of video content and witnessed the formation of new relationships between the actors of this field, i.e., producers and workers, consumers and audiences, observers, mediators and other stakeholders, and related factors and elements. The progress of Twitch has increased the power of individuals and their relationships with institutions or other powerful actors and ultimately led to the democratization of production, consumption, and distribution mechanisms. On the other hand, the economic capacities of the Twitch platform and the different and diverse possibilities that this live-streaming platform provides to its users to earn money, encourage them to devote more time to it every day and consider it as an employment space for themselves and prefer working in it to many other jobs. This has also provided the basis for the emergence of more and more independent people and groups in this industry, who instead of working under the flag of companies and institutions, individually or by forming small and multi-person teams, implement and operate their creative ideas and present them to their audience and followers or sell them in the form of independent products in global online markets.

The growing place of entertainment in the contemporary lifestyle has made the industries related to them brighter and more prosperous than any other period, and this has led to meeting the diverse needs of audiences all over the world with different trends, tastes, interests, culture, age group, and social and economic class, it will lead to the formation of a huge and attractive market for the digital games industry, whose potential capacities are still much higher than its actual situation; A market that includes numerous digital jobs

from ideation and design to implementation and includes activities such as marketing, advertising, introduction, and evaluation. The requirements of this market, on the one hand, and the characteristics and coordinates of the digital space, on the other hand, have led to the emergence of many digital workers, who work on day and night in various individual and group formats outside of the customs and rules of work and administration. These jobs may not always have a high income or job security, but their owners have the freedom of action that this method gives them in terms of working environment and working hours due to their interest in their field of work. They welcome them as much as possible in order to use their creativity and implement their plans and ideas. For this reason, neglecting this cultural industry and the emerging economy arising from it, or neglecting it and not having a plan and plan regarding it, will lead to the loss of many job opportunities and being deprived of significant financial circulation and economic benefits.

In this regard, what should be considered first and foremost is paying attention to the audience, prioritizing them, and considering their wishes, interests, and expectations, which in the current media environment it is considered the most key element of success and efficiency of any project in cultural industries. As we have seen, the most important achievement of the Twitch platform, which has made it popular with a large audience of digital games, is the power of choice that it provides to the audience and users, in order to avoid wasting time and prevent their cost. Until now, the high price of many console-based digital games caused the audience to receive limited and incomplete information about a game, in the form of advertisements, short, selective, and tasteful videos, and finally some magazines. Audiences make a decision to buy a game and after their personal experience of the game space, its story, and the design of the elements used in it, it is possible to choose that game according to their taste and interest. And they don't expect it, and after a very short time, they put it aside with disappointment and regret, or sell it at a lower price than the purchase price. With its primary function, the Twitch platform was able to prevent such common occurrences; Because users and audiences can watch the game they want without interrupting and summarizing through it and on their favorite streamer channel; monitor the way it is played and what the game expects from them, evaluate its difficulty and ask the streamer their questions about the game or by reading the chats and listening and paying attention to the questions and receive the answers of others, answers to their questions or doubts. In fact,

it can be said that livestream is a new force in the game industry that creates new links between developers and streamers and changes the audience's expectations of games and their design. All these things, along with other advantages and facilities of this platform, make users and audiences to have a detailed evaluation of the option they want before buying any game and spending time and money on it. In this way, they can choose consciously, confidently, and correctly.

But as mentioned, this feature is only one of the functions of the Twitch platform and of course one of the main ones. In addition to increasing the agency and power of audience choice and providing a platform for the creativity and activity of independent designers, producers, and developers, Twitch is also considered as a space for education and learning. As it was said, some programmers and experts of game design software, in the streams that they broadcast lively on their channel during their work, they teach how to work with specialized programs or coding. They teach their audience about the game and answer their questions and problems. Another reason for the success of Twitch and its wide popularity is that livestreaming platforms for digital games are still in their infancy and there is very few livestreaming platforms that exclusively belong to the gaming industry. They are numbered and limited. The designers and founders of Twitch had realized that the audience of the digital game industry is large enough for them to set up a non-public, specialized service with high economic efficiency in this area, and what the remarkable success of their idea led to the design of an open, flexible, audience-oriented structure far from strict, one-sided and totalitarian rules, in which the benefits, demands, and interests of the audience of this industry are provided. Both its designers, builders, developers, and creators, as well as large and long-standing companies active in it. Twitch does not consider these groups as opposing or separate elements, but as gears that their connectivity and moving is the engine of this leading industry, and day by day, it continues to move with more strength and power.

This is why Twitch has now become an ideal and suitable platform where both new and modern games are given attention, and old and nostalgic games are revived; Both digital games are popular and traditional and non-digital games; Both the productions of famous and large companies are covered, as well as the productions of small and independent individuals and teams; Both production and development are valued, and finally attention is paid to both entertainment and education. We should not also forget the

implication of such games for strategic game layer and strategic education (Navarbafi & Shahghasemi, 2023). All these elements and capacities are the things that are selected in the design of similar platforms both at the national level and with localized functions to create a competitive advantage at the international level, with the motivation of competing at the global level. They can be imitated and at the same time, it is possible to take steps to solve the cultural, economic, and social challenges emanating from such platforms by compiling and designing the required attachments.

Ethical considerations

The authors have completely considered ethical issues, including informed consent, plagiarism, data fabrication, misconduct, and/or falsification, double publication and/or redundancy, submission, etc.

Conflicts of interests

The authors declare that there is no conflict of interests.

Data availability

The dataset generated and analyzed during the current study is available from the corresponding author on reasonable request.

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