GAME STREAMING PLATFORMS AND THEIR IMPACT ON THE DEVELOPMENT OF ESPORTS AS A NEW SPHERE OF UKRAINE'S DIGITAL ECONOMY

ІГРОВІ СТРІМІНГОВІ ПЛАТФОРМИ ТА ЇХ ВПЛИВ НА РОЗВITОК КІБЕРСПОРТУ ЯК НОВІТНЬОЇ СФЕРИ ЦИФРОВОЇ ЕКОНОМІКИ УКРАЇНИ

Ігрові стрімінгові платформи мають значний вплив на розвиток кіберспорту як нової сфери цифрової економіки України. Вони надають можливості гравцям та командам транслювати ігрові виступи в прямому ефірі, а організаторам турнірів здійснювати трансляції ігрових турнірів та змагань. Окреслені платформи привертають нових талановитих гравців та команди, які можуть просуватися та конкурувати на міжнародному рівні. Відтак, дослідження спрямоване на вивчення функцій ігрових стрімінгових платформ та їх впливу на розвиток кіберспорту як нової сфери цифрової економіки України.

У межах дослідження встановлено, що в Україні розвиток кіберспорту як ендемічної сфери цифрової економіки в значній мірі залежить від ролі ігрових стрімінгових платформ. Ці платформи надають можливість гравцям-аматорам, професійним спортсменам, організаторам кіберспортивних заходів та іншим зацікавленим особам транслювати відеоігри в режимі реального часу через Інтернет. Доведено, що популярність кіберспорту забезпечує віддалений доступ до кіберспортивних змагань та індивідуальних стрімів (оскільки вони привертають увагу глядачів). Доведено, що проведення турнірів та змагань кіберспортивними організаціями на платформах можливо завдяки формуванню контенту та зв'язаних з ним можливостей організаторів для привертання уваги спонсорів. Доведено, що формування контенту сприяє професійному зростанню кіберспортсменів, оскільки воно вимагає демонстрації їх навичок та талантів перед широкою аудиторією. Формування контенту допомагає привертати увагу потенційних спонсорів, фанатів та підвищувати репутацію в кіберспортивному середовищі. Доведено, що...
Game streaming platforms have a significant impact on the development of esports as a new sphere of the digital economy in Ukraine. They provide opportunities for players and teams to broadcast their gaming performances in real-time, and for tournament organizers to stream gaming tournaments and competitions. These platforms attract new talented players and teams who can progress and compete at the international level. Consequently, the research aims to study the functions of game streaming platforms and their impact on the development of esports as a new sphere of Ukraine’s digital economy. Within the scope of the research, it is observed that in Ukraine, the development of esports as an endemic sphere of the digital economy is significantly influenced by game streaming platforms. These platforms enable amateur players, professional athletes, organizers of esports events, and other interested individuals to live stream video games over the Internet in real-time. It has been proven that the popularity of esports is driven by access to esports competitions and individual streams, which attract viewers’ attention. It has also been demonstrated that esports organizations hosting tournaments and competitions on platforms can attract sponsors’ attention through content creation and related opportunities. Proved, that the professional growth of esports athletes is facilitated by the creation of content that showcases their skills and talents to a wide audience. This helps them attract potential sponsors, gain support from fans, and enhance their reputation within the esports community. It has been proven that the creation of inspiring content and platforms for talent discovery and recruitment play a crucial role in attracting new talents to esports. Streamers can serve as role models for beginners and young players, inspiring them to pursue professional development in this field.

The obtained results provide a basis for assessing the economic impact of game streaming platforms on the development of esports in Ukraine. It may include analyzing the revenues of players, streamers, and esports organizations, as well as studying the effectiveness of various monetization models such as paid subscriptions, donations, and advertising.

Key words: esports; endemic sector; digital economy; esports athletes; monetization; esports ecosystem.
The significance of studying the role of game streaming platforms in the context of modern esports. However, despite this growing interest, scientific research specifically focused on understanding the content of game streaming platforms within the realm of contemporary esports is still relatively limited in scope.

**THE WORDING OF THE PURPOSES OF ARTICLE (PROBLEM)**

The purpose of the article is to investigate the functions of game streaming platforms and their impact on the development of esports as a cutting-edge field in the digital economy.

**THE PAPER’S MAIN BODY WITH FULL REASONING OF ACADEMIC RESULTS**

Esports is actively developing in Ukraine and has emerged as an endemic sector of the digital economy. In this process, game streaming platforms play a significant role, which, within the scope of this research, are interpreted as online services that allow amateur players, professional athletes, organizers of esports events, and other interested individuals to livestream video games in real-time over the Internet. In this context:

1. Streamers utilize specialized software to capture their gameplay and broadcast it live on the platform. For example, OBS (Open Broadcaster Software) and XSplit are software tools used for streaming and recording video from a computer screen.
2. Viewers can watch the gameplay in real-time, leave comments, interact with the streamer through chat, send donations, or subscribe to the streamer’s channel to support their content.

These features are facilitated by the multitasking capabilities of game streaming platforms. They provide numerous functions, the main ones of which are listed in Figure 1.

So, let’s examine the highlighted functions of game streaming platforms and their impact on the development of esports in more detail. Specifically:

1. Ability to create special channels for esports events. This enables esports organizations, teams, and tournament operators to stream their matches, attract viewers, and host content specific to esports.
2. Strategic promotion: These channels provide esports organizations, teams, and tournament operators with the opportunity to build their brand and attract sponsors. This creates an environment for viewer interaction, discussing matches, supporting teams, and more.
3. Interaction with viewers: Special channels enable active interaction with the viewers of esports events. Viewers can leave comments, ask questions, express their impressions, and show support in the chat or through other interactive features on the platform.
4. Support for archived content: Special channels provide the ability to store and access archived videos of esports events. This means that viewers can watch recordings of previous matches, tournaments, and other exciting moments they may have missed.

**Figure 1. Functions of game streaming platforms and their impact on the development of esports as a cutting-edge field in the digital economy**

Source: formed based on [1; 4; 6].

**Table 1. The main advantages of special channels for esports events on game streaming platforms**

<table>
<thead>
<tr>
<th>Main advantages</th>
<th>Characteristics of benefits</th>
<th>Impact on the development of e-sports in Ukraine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenient access to esports content</td>
<td>Special channels for esports events allow for easy discovery and viewing of esports matches, tournaments, and other events that take place on dedicated channels.</td>
<td>This ensures the convenience of consuming content and increases audience engagement.</td>
</tr>
<tr>
<td>Professional broadcasting</td>
<td>Special channels for esports events provide a variety of tools and features for professional broadcasting of esports events. This may include high-quality streaming, commentators, production decisions, graphics, and other elements that create an engaging and captivating broadcast.</td>
<td></td>
</tr>
<tr>
<td>Audience engagement</td>
<td>Special channels for esports events attract viewers who are actively interested in esports.</td>
<td></td>
</tr>
<tr>
<td>Brand promotion</td>
<td>These channels provide esports organizations, teams, and tournament operators with the opportunity to build their brand and attract sponsors*.</td>
<td></td>
</tr>
<tr>
<td>Interaction with viewers</td>
<td>Special channels enable active interaction with the viewers of esports events. Viewers can leave comments, ask questions, express their impressions, and show support in the chat or through other interactive features on the platform.</td>
<td>This fosters the building of a community around esports and increases viewer engagement in events.</td>
</tr>
<tr>
<td>Support for archived content</td>
<td>Special channels provide the ability to store and access archived videos of esports events. This means that viewers can watch recordings of previous matches, tournaments, and other exciting moments they may have missed.</td>
<td>This provides access to content even after the live stream has ended.</td>
</tr>
</tbody>
</table>

Note:

*As a channel becomes popular and has a large audience, it attracts the interest of companies that want to advertise their products or services during esports events.

Source: formed based on [1; 2; 4].
broadcasting, audience engagement, brand promotion, interaction with viewers, and support for archived content. These features of special channels for esports events help enhance the esports ecosystem. Organizations, teams, and tournament operators can utilize these channels to promote their competitions and raise their profile within the esports industry.

2. The ability for esports players and their fans to create communities where they can discuss games, esports events, share thoughts, and communicate is facilitated by the presence of social interaction features on gaming streaming platforms. These features often include chat functions, comments, forums, and dedicated sections for communication. This stimulates interaction and fosters the development of an esports community where players and fans can discuss their favorite games, exchange strategies, share impressions of matches and tournaments, and engage with both professional esports athletes and amateur players.

3. The ability to watch archived videos allows viewers to watch videos later when they have missed the live broadcast. This enables viewers to watch videos from popular tournaments, player performances, and other content that they may have missed in real-time.

4. The ability for streamers to interact with other players and viewers through chat provides active communication, exchange of thoughts, questions, and interaction among stream participants.

5. The ability for streamers to earn revenue through various forms of monetization is an important aspect of streaming for esports organizations, esports athletes, and other interested parties (Fig. 2).

Therefore, among the main forms of stream monetization for eSports organizations, esports players and other interested parties are:

- Displaying ads during a stream. This opportunity arises because streamers have the ability to display ads during a stream.

Table 2. Features of game streaming on gaming streaming platforms and their impact on the development of esports as a new sphere of Ukraine’s digital economy

<table>
<thead>
<tr>
<th>Types of streams</th>
<th>Specificity of content</th>
<th>The release of streams on the development of e-sports</th>
</tr>
</thead>
<tbody>
<tr>
<td>streams of professional players</td>
<td>Professional players livestream their training sessions, gameplay, and participation in tournaments.</td>
<td>Streaming allows fans to familiarize themselves with esports disciplines, professional players, and gain insights into the game.</td>
</tr>
<tr>
<td>tournament streams</td>
<td>Esports tournament organizers livestream them in real-time.</td>
<td>Streaming allows fans to stay up-to-date with esports events and observe matches across various esports disciplines.</td>
</tr>
<tr>
<td>streams of other esports events</td>
<td>Organizers of major esports events (such as world championships, majors, or leagues) livestream them in real-time.</td>
<td>Streaming enables fans to stay informed about the intricacies of gameplay and matches across different esports disciplines.</td>
</tr>
<tr>
<td>streams of sports analysts and</td>
<td>Analysts and commentators create streams dedicated to game analysis, strategies, matches, and esports events analysis worldwide.</td>
<td>Streaming is beneficial for both amateur players and professional esports athletes who aim to improve their gameplay and receive valuable advice.</td>
</tr>
<tr>
<td>commentators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>trainer streams</td>
<td>Coaches livestream streams where they share their experience, teach players strategies, analyze gameplay, and help develop skills.</td>
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<tr>
<td>streams of amateur gamers</td>
<td>Amateur gamers showcase their gameplay, interact with viewers, and engage in informal conversations.</td>
<td>This allows the creation of a community of players who are interested in specific games (which are esports disciplines) and interact with each other.</td>
</tr>
</tbody>
</table>

Note
* Merch is T-shirts, hats, badges and other items with the logo, which certify belonging to a particular gaming community, e-sports team or brand.
Source: formed based on [2; 3].
advertisements during their streams. These can include platform ads, sponsorships, or commercial videos played during breaks in the stream. Cyber athletes earn revenue based on factors such as the number of views or interactions with the advertising content:

- Sponsorship deals with brands. This opportunity arises because streamers can enter sponsorship agreements with brands to display logos, links, or special content on their streams, as well as engage in joint advertising. Cyber athletes, esports teams, and esports clubs receive fees for such sponsorship agreements;
- Paid subscription viewers. This opportunity arises because game streaming platforms offer paid subscriptions that viewers can purchase to gain certain privileges and exclusive content. One example of viewer subscriptions can be found on the popular platform Twitch. They have a partnership and affiliate program that allows streamers to offer paid subscriptions to their viewers;
- Donuts or contribution from the audience. They can involve monetary contributions that viewers send through specialized platforms or services such as PayPal, Patreon, or other payment systems. This opportunity arises because viewers can send messages of support or expressions of gratitude along with their donations;
- Selling exclusive content or merch. This opportunity arises because streamers have the ability to provide and sell exclusive content (gameplay recordings, tips and strategies, tutorials, video lessons, or even personal exclusive meetings or training sessions) or merchandise (t-shirts, hats, badges, and other items with their logo) to generate additional income. In Ukraine, for example, many professional esports athletes and streamers have their own online stores where they sell t-shirts, hats, posters, stickers, and other goods featuring their brand. Fans can purchase these items as a way to express their support and affiliation with the community of their favorite esports player or team.

Regardless of the form of income, they allow streamers to earn money from their streams and content, provided that the stream and its content have the distinctive features outlined in Figure 3.

Stream — is a real-time transmission of video or audio information over the Internet. In the context of esports and video games, a stream refers to a type of live video broadcast of gameplay or other related content that is streamed in real-time. It has a significant impact on the development of esports (Table 2).

In particular, the types of influences vary across different types of streams, including those created by professional players, esports event organizers (tournament streams, streams of other esports events), analysts and commentators, coaches, and casual gamers.

Therefore, among the features of streaming and its content that influence the development of esports as a cutting-edge sector of the digital economy, we have identified the following [3]:

1. Real-time streaming of training or competitive gameplay sessions, allowing viewers to observe esports athletes, amateur gamers, and coaches during matches or competitions, follow their actions, and interact with them through chat or other platform features.
2. Interactive streaming, enabling viewers to engage with esports athletes through chat, comments, or special platform features.
3. Real-time comments, where viewers send comments and react to a player’s gameplay in real-time. This allows esports athletes to receive instant feedback from their audience and respond to their comments or requests during the stream.

Therefore, the identified features of gaming streaming platforms form the following scheme of their impact on the development of esports (Figure 4).

Based on its content, it is evident that the main areas of influence of such platforms on esports are: (1) the popularity of esports (facilitated by access to esports
CONCLUSIONS FROM THIS STUDY AND PROSPECTS FOR FURTHER EXPLORATION IN THIS AREA

The research findings highlight that in Ukraine, the development of esports as an endemic sector of the digital economy is significantly influenced by the role of game streaming platforms. These platforms enable amateur players, professional athletes, esports event organizers, and other interested individuals to livestream video games in real-time over the Internet. The main areas of influence of such platforms on the development of esports are as follows:

1. Popularity of esports, facilitated by access to esports competitions and individual streams that attract viewers’ attention.
2. Hosting tournaments and competitions by esports organizations on the platform, made possible through content creation and the associated opportunities for organizers to attract sponsors’ attention.
3. Professional growth of esports players, facilitated by creating content that showcases skills and talents to a wide audience. This helps them attract the attention of potential sponsors, gain support from fans, and enhance their reputation within the esports community.
4. Engagement of new talents through the creation of content that can inspire young individuals and platforms for discovering and attracting new talents to esports. Streamers can serve as role models for beginners and young players, inspiring them to pursue professional development in this field.

The obtained results create a basis for assessing the economic impact of gaming streaming platforms on the development of esports in Ukraine. This may involve analyzing the revenues of players, streamers, and esports organizations, as well as studying the effectiveness of various monetization models such as paid subscriptions, donations, and advertising.

References: