

EXAMENINSTRUCTIES

D0R04a Strategic Management

Prof. dr. Bruno Cassiman
June 5, 2021

Instructions for students

- Please write your identification info (student name, number) on every page!
- **Maximum duration: 3h** (from official starting hour of the exam)
- Exam type: written, closed book
- Only the following auxiliary materials are allowed:
 - Pen
 - (Non-)programmable calculator
- Students are allowed to use their own pen, but should only use the paper provided by the university. Other papers, notebooks, ... are not allowed.
- Students must put their personal belongings (mobile phones, smartwatches, other electronic devices, bags, backpacks, coats, etc.) under their own chair when they enter the exam room. All bags and backpacks have to be closed.
- For any irregularity of a student, all articles in the irregularities section of the exam regulations apply.
- You can use the back of the pages as scrap paper.
- Only the answers written in the answering boxes will be read. Cross out your scrap text that doesn't need to be corrected (e.g. draft solutions to the exercises).

Marks

Quest. 1	Quest. 2	Quest. 3	Quest. 4	Quest. 5
/6	/4	/4	/10	/26

NOTE:

- I APPRECIATE SHORT AND STRUCTURED ANSWERS TO THE QUESTIONS. THEREFORE YOU HAVE LIMITED SPACE TO ANSWER. HOWEVER, I NEED TO BE ABLE TO EVALUATE YOUR KNOWLEDGE AND COMMAND OF THE CONCEPTS SO YOU NEED TO ELABORATE THE CONCEPTS AND MAKE AN ARGUMENT. THINK BEFORE YOU WRITE AS SPACE IS COSTLY!
- EXAMS CAN BE WRITTEN IN ENGLISH OR IN DUTCH (WITH SOME ENGLISH WORDS/CONCEPTS). THE DUTCH GROUP RECEIVES THE EXAM IN DUTCH. THE ENGLISH GROUP RECEIVES THE EXAM IN ENGLISH. THIS IS NOT A LANGUAGE EXAM, BUT YOUR ARGUMENTS NEED TO BE CLEAR TO THE READER.



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1 True/False questions (6 points)

1. True/false and Explain briefly: The diversification discount means that when you split up a conglomerate, the combined market value of the stand-alone businesses would be worth less than what the conglomerate is worth today on the stock market.

False:

- The diversification discount means that when you split up a conglomerate, the combined market value of the stand-alone businesses would be worth **MORE** than what the conglomerate is worth today on the stock market.

2. True/False and Explain briefly: According to Porter & Kramer (2011) in "Creating Shared Value", the "Shared Value" concept is in contrast with capitalism..

False:

- Shared value is the idea that by addressing society's needs and challenges, companies can create economic value in a way that also benefits society.
- Results in competitive advantage
- Align with capitalism as it adds stakeholders

3. True/False and Explain briefly: The strategy map and balanced scorecard are important visual tools to help companies develop their strategy.

False:

- A strategy map is a simple graphic that shows a logical, cause-and-effect connection between strategic objectives. A strategy map is one of the most powerful tools in the balanced scorecard.
- The balanced scorecard (BSC) is a strategic planning and management system. This can be used for: communication of goals, prioritize projects, measure and monitor progress towards strategic targets
- These visual tools are not to develop strategy but to operationalize the strategy



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2 “Connect to Today” (4 points)

The “Connect to Today” reading by Siggelkow and Terwiesch “The Age of Continuous Connection” (2019) states the following:

“New technologies have made 24/7 customer relationships possible... Thanks to new technologies that enable frequent, lowfriction, customized digital interactions, companies today are building much deeper ties with customers than ever before. Instead of waiting for customers to come to them, firms are addressing customers’ needs the moment they arise—and sometimes even earlier. It’s a win-win: Through what we call connected strategies, customers get a dramatically improved experience, and companies boost operational efficiencies and lower costs [...] If you want to achieve a sustainable competitive advantage in the years ahead, connected strategies need to be a fundamental part of your business.”

Can you reconcile this statement with theoretical concepts covered in class? Which concepts (if any) would it most likely affect? Does it change the way we should think about strategy development as covered in the course? Explain briefly.

Most likely affect the scope of the business, namely the customer scope.

Identify the market-, product- and customer segments the company intends to service or supply and the regions it wants to cover.

The new technologies enable us to:

- Understand customer need
- Select/Segment better using this technology to understand product/customer interactions and consistency
- Improve their WTP (possibly lower costs) and create more value
- Improve the Value Proposition

(make sure you convince the reader that you know and understand the concepts you mention)

(- possibly these new technologies allow to develop alternative Business Models)

As a result, it does not change the way we should think about strategy development. There is a consistent scope and technology is a tool for improving and expanding the set of things that firms can do.



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3 Enterprise Value (4 points)

Firms A and B are constant growth firms, identical in every aspect except that the Return On Invested Capital (ROIC) for A is 15 percent and the ROIC for B is 5 percent. Assume that management has established an investment rate (IR) of 40 percent.

Tip: growth rate = ROIC x IR.

3.1 Compute the estimated Enterprise Value for each firm given the following information. Show your calculations. (1 point)

Firm A	
Free Cash Flow at t=1	€5,000
WACC	10 %
Investment rate	40%
ROIC	15 %

Firm B	
Free Cash Flows at t=1	€5,000
WACC	10 %
Investment rate	40%
ROIC	5 %

Use: $Enterprise\ Value = \frac{FCF}{WACC - g}$

Firm A:

$$\frac{5000}{0.10 - (0.15 * 0.4)} = \frac{5000}{0.10 - 0.06} = 125.000$$

Firm B:

$$\frac{5000}{0.10 - (0.05 * 0.4)} = \frac{5000}{0.10 - 0.02} = 62.500$$



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3.2 What conclusion should be drawn with respect to the relationship of WACC to ROIC? Explain. Demonstrate your answer using a calculation. (3 points)

Explanation:

If the ROIC is greater than the WACC, then value is being created as the firm invests in profitable projects. Conversely, if the ROIC is lower than the WACC, then value is being destroyed as the firm earns a return on its projects that is lower than the cost of funding the projects

A: $ROIC > WACC$

B: $ROIC < WACC \leftarrow$ destroy value

Calculation:

Net Operating Profit Less Adjusted Taxes (NOPLAT)

$$1) \frac{NOPLAT \left(1 - \frac{g}{ROIC}\right)}{WACC - g} = EV \Rightarrow NOPLAT = 8.333$$

$$2) ROIC = \frac{NOPLAT}{IC} \Rightarrow IC_A = 55.556 < EV_A; IC_B = 166.660 > EV_B$$

4 Corporate Strategy (10 points)

IJsboerke-parent becomes a billion euro company after takeover. (De Tijd, 18 May 2021)

"Sweet Products, the parent company of IJsboerke (ice cream) and Jacques (chocolate), is about to become a billion-euro company. It announced in a press release on Tuesday that it is entering exclusive negotiations with Cémoi, France's largest chocolate producer. The Belgian company would become one of the largest European chocolate manufacturers. Sweet Products is not only known for brands such as IJsboerke and Jacques, but mainly sells products with the logo of the supermarkets' own private label brands. 'We work for all European supermarkets,' says Van Logtestijn (CEO). 'From the A for Albert Heijn, Auchan and Aldi to the T for Tesco, and everything in between.'

The company has seven chocolate factories in Belgium, Germany, the Netherlands and Switzerland, two Belgian ice cream factories and a candy factory in the United Kingdom. Altogether, 1,800 people work there. The much larger Cémoi employs 3,200 people, in 14 factories in Europe and the US, where the group has a limited presence. "They also have a factory in Ivory Coast," says Van Logtestijn. "That is very interesting, because unlike Sweet Products, Cémoi controls the entire process of chocolate production: from the cocoa bean to the production of chocolate."

As a recent KU Leuven graduate working for the consulting firm assisting Sweet Products in evaluating the merger, you are asked to provide some structured tests to evaluate the potential Corporate Advantage generated by this merger.



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- a. Define 'Corporate Advantage'. Which two tests would you propose to evaluate the merger? (3 points)

- 1) A company is said to have created a CORPORATE or PARENTAL ADVANTAGE if it has driven a wedge between the break-up value of its businesses and the enterprise value = on the business-unit level, the difference in the competitive advantage created by the benefits of corporate affiliation → results in outperforming their rivals in a particular industry
- 2) Tests:
 - 1) Better off test: The Better Off Test looks to establish if the company or new unit will be better off from the diversification and thus gain some form of competitive advantage. In order to pass the test, there has to be some tangible benefit to either the existing company, acquired company, or new business unit.
 - 2) Best Alternative/natural owner test: Analyze whether you are the natural owner and need to own the other businesses to generate the benefits. For example, in case there are unclear property rights, complexity of contractual incompleteness, and this leads to a too large inefficiency, you should own the businesses. (f.ex.: Coca-Cola and Bottlers: each time Cola wanted to introduce a new flavour, they had to negotiate with the Bottlers, as they had the right to do so. This created inefficiency. Coca-Cola eventually decided to buy Bottlers to change their contract.

- b. Sketch your answer to these tests based on the information provided. (Hint: you do not have much information, but you can structure (i.e. sketch) different elements of an answer.) (7 points)

1) Better off test:

a) argument about:

- Market power – concentration
 - Reduce supplier power & buyer power
 - (stronger complements)
- => arguments related to Porter's 5-Forces (Industry level arguments)

b) argument about:

- Increase in WTP
- Decrease in Costs

2) Best Alternative Test:

Elements within the contract that lead to inefficiency/difficulties. Are there hard to contract elements?



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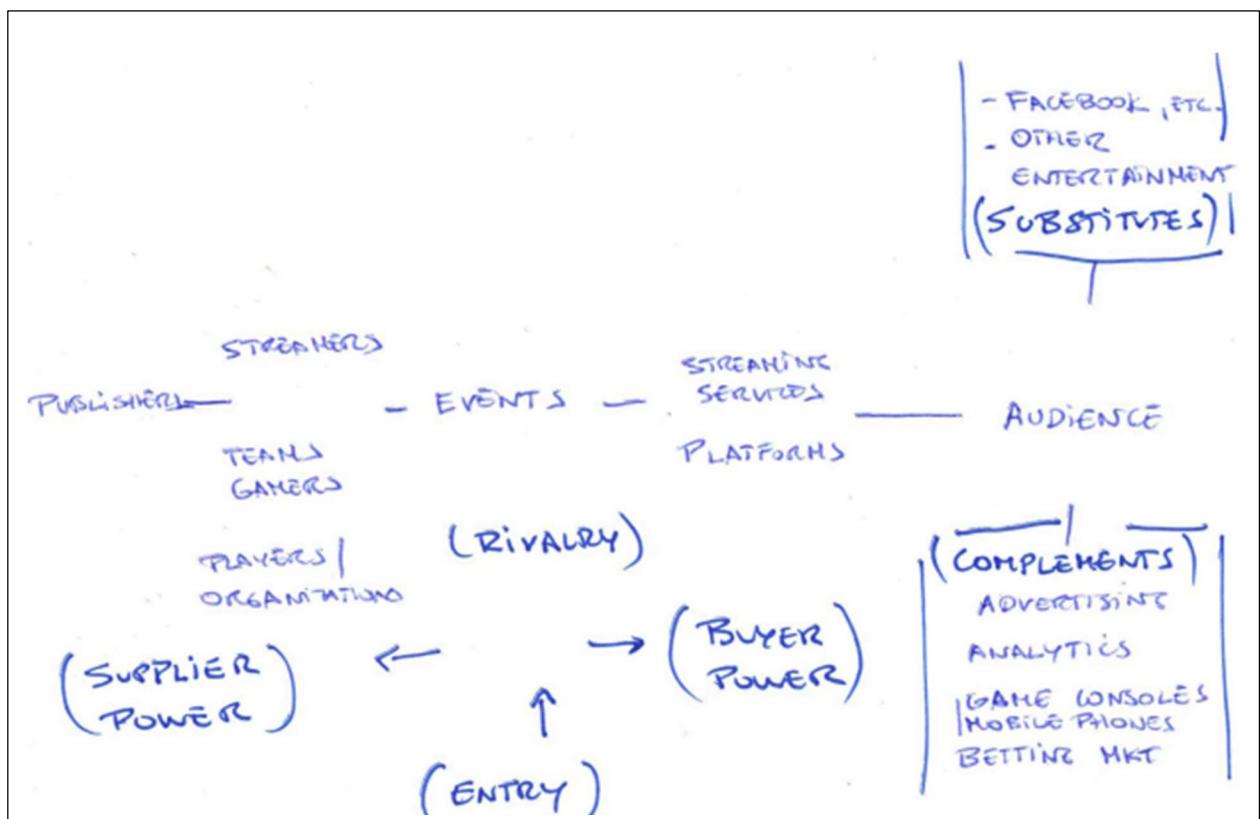
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5 Case: Esports (26 points)

Read the case on Esports below and answer the following questions:

I am interested in your carefully reasoned argument on these questions based on the information in the case. If some information is unclear or unavailable, clearly specify the assumptions you are making in developing your argument.

1. Draw the Esports **Industry Value System** as you understand it from the provided information. (Hint: I am only looking for a visual representation with minimal explanation). (4 points)





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2. Take the position of Esport Event Organizers in the Industry Value System.

- a. Analyze the Esports industry. Use an appropriate framework to structure your analysis. Is the business of Esport Event Organizers and attractive business? Why or Why not? Explain your answer. (8points)

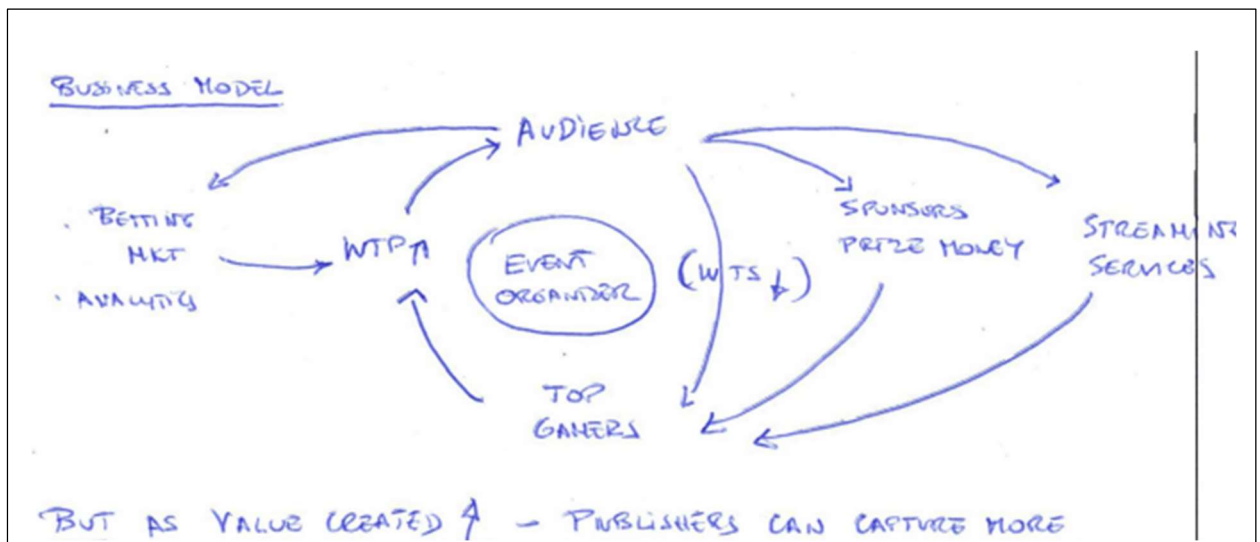
5+1 forces(Value System):

- 1) Supplier Power: Publishers own IP (-)(-)
- 2) Rivalry: Many event organizers (-)
- 3) Entry: Easy to enter (-)
- 4) Buyer Power: Audience:
 - Low switching costs, many alternatives (-)
 - Platforms: provide access to audience (=)
- 5) Substitutes: Many alternatives (-)
- 6) Complements: (+)

Conclusion: Esports Event Organizer is an unattractive industry, all the power lays with the publishers

Note: these elements need to be carefully argued using data/elements from the case.

- b. Sketch the Business Model of an Esport Event Organizer. (Hint: I am only looking for a visual representation with minimal explanation). (5 points)





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3. Now take the position of an Esport Game Publisher such as Electronic Arts (EA), the publisher (developer and owner) of the FIFA21 game.

- a. Discuss how EA creates value. Start by defining Value Creation. What would be important drivers of value creation in this business? (3 points)

1) Value created = WTP – Costs

2) The value creation can be affected through the WTP: driver are the IP, brand, audience, the player,...

Argue some of these drivers using data/elements from the case

b. Does EA have a Sustainable Competitive Advantage?

- i. In your answer define Competitive Advantage. What would the basis of this potential Competitive Advantage be? (2 points)
- ii. Use an appropriate framework to structure your analysis on Sustainability (of this potential Competitive Advantage). (4 points)

i. A firm or a business is said to have created a **COMPETITIVE ADVANTAGE** over its rivals if it has driven a wider wedge between willingness to pay and costs than its competitors have achieved

ii. Sustainability:

- Imitation → IP
- Substitution → innovate, improve game
- Hold up → Champions league, UEFA, real players
- Slack → maintain & update program

For each of these elements argue how sustainability of the competitive advantage is being created through these elements based on data and information of the case.



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If you thought Club Brugge won the most important football championship of Belgium in 2021, think again...

OH Leuven has won the third edition of the Proximus ePro League, the largest Belgian FIFA competition. OH Leuven and Anderlecht competed for the title on Wednesday in the Fit Five arena in Forest. OH Leuven exporter Reinout 'EONEL' Schols beat Zakaria Bentato (Anderlecht) after three exciting matches ...

Excerpted and edited from Chapman (Esports: A Guide to Competitive Video Gaming, www.Toptal.com).

Esports is a booming global industry where skilled video gamers play competitively. In the same way that traditional sports have competitions in baseball, basketball, and football, esports encompasses competitions across a variety of video games. Contrary to common perception, esports is not simply a phenomenon occurring in the basements of unemployed twentysomethings; the industry is real, growing globally, and investable. In fact, over 380 million people watch esports worldwide both online and in person. More people watched the 2016 world finals of popular esports game League of Legends (43 million viewers) than the NBA deciding Finals Game that year (31 million viewers). With its fragmented landscape and digital platform, the esports sector holds promise for a multitude of monetization opportunities.

Esports, short for “electronic sports,” transforms online gaming into a spectator sport. The experience is similar to watching a professional sporting event, except that instead of watching a physical event, spectators watch video gamers compete against each other in a virtual environment. If it’s hard to imagine why anyone would watch somebody else playing a video game, just think about how enjoyable it is to watch LeBron James or Steph Curry play basketball. Just as traditional sports fans enjoy watching top athletes perform at the top of their craft, the same is true of those who watch top video gamers compete.

Though the actual rankings of the most popular esports games change slightly month-to-month, as of right now, League of Legends remains the most-watched eSport in the world. It’s also worth noting, for those less familiar with esports, that the most popular games are not traditional sports-related video games such as FIFA. Rather, the popular esports genres include multiplayer online battle arenas (where a player controls a single character in a team that must destroy the opposing team’s main building), real-time strategy (where a player builds an army to gain dominance over a map), or first-person shooter games (where players take part in a firefight across a map).

The esports landscape is admittedly complex and at times difficult to navigate.

PLAYERS

Becoming a top esports player is no simple achievement. To rise through the ranks, players specialize in a specific game, developing their skills through extensive, competitive play. Some even train up to 14 hours a day to hone quick reflexes and multi-tasking abilities. Talented players primarily have two options in pursuing their esports careers:



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- **Streaming:** Gamers who livestream themselves as they play video games are referred to as "streamers." This is typically done in casual play. While streaming can be incredibly profitable, many streamers have to decide whether they want to stream for a living or try and play professionally and run the risk of making less money. With that said, not all streamers have the skill to play professionally. Instead, some simply have "streaming personalities" that viewers find entertaining to follow, donate to, and subscribe to. This can create impressive revenue streams for the most successful. For example, the most popular YouTube channel in the world belongs to a video game streamer who goes by the name of "PewDiePie." He has such a polarizing style that viewers often find him either "highly delightful or incredibly annoying," and currently has close to 57 million YouTube subscribers. In 2015, he reportedly made \$7.4 million.

- **Playing Professionally:** The few who rise to the professional level compete in tournaments all around the world against the best teams. During the journey, they usually build up a fan base for themselves as well as for the teams and organizations they play for. Successful pro gamers can earn six figure salaries or even millions. Top players often start professionally around age 16 or 17, and then tend to retire around age 24.

TEAMS

Professional players join teams (in multi-player games) or play solo (in 1v1 games) to compete for cash prizes. Each team specializes and competes in one specific game, such as League of Legends, Dota, or Counter-Strike. The teams that compete at these tournaments have millions of followers on Twitter, millions watching online, and tens of thousands of spectators following them to in-person tournaments. A few examples include Evil Geniuses, Fnatic, and Optic Gaming.

ORGANIZATIONS (ORGS)

The best esports teams are recruited to be a part of organizations, have several teams that specialize in their respective video games but operate under the same name (e.g., Cloud9, NRG, TSM, Optic Gaming, or Fnatic)—just as a college or university competes in football, basketball, and hockey all under the same umbrella organization (the college or university). It's helpful to think of an organization as an elite conglomerate of the teams playing a variety of video games. A few of the games are 1v1 while others are team based and involve two squads competing against each other. Leveraging a larger fan base following as the organization recruits more high profile players and teams, organizations will seek out sponsorships with brands to access additional revenue streams outside of cash prizes. These are determined by the following and successes of the underlying players and teams of that specific organization.

LEAGUES AND ESPORT EVENT ORGANIZERS

Esports teams, representing the organization they're a part of, will compete in their video game's respective league where there are regular seasons, playoffs, and world championships. Just as basketball teams are part of the NBA and compete against each other, esports teams (typically under an organization umbrella) compete in video game leagues. League tournaments are run by companies such as Major League Gaming (MLG) or the Electronic Sports League (ESL). Leagues include North America League of Legends Championships Series, the Call of Duty World League (organized by MLG), or the Pro League for CS:GO (organized by ESL). Today, esports' largest tournaments are nearly as large as traditional sporting events. Perhaps unsurprisingly, prize money for the largest tournaments can



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be enormous. Total prize money in 2016 reached \$93.3 million, up from \$61.0 million in 2015 and a far cry from \$5.2 million in 2010.

PUBLISHERS

In esports, each game is the intellectual property of the game creator, collectively referred to as “publishers.” These publishers include Riot Games, Valve, Activision, Electronic Arts and others. The publisher’s dynamic in the esports ecosystem can be considered “all powerful.” Unlike traditional sports, which can be played by whomever and wherever, publishers build and develop their games and subsequently own all rights surrounding them. This means that they have rights around where the game is played, who can host video game tournaments, and more. At the end of the day, publishers own the intellectual property of each game, and other industry participants (players, teams, tournament organizers) are keenly aware of this reality.

Because publishers in esports own the intellectual property for each game they’ve created, they have the ultimate authority to set the terms by which other parties can utilize their software. This includes restrictions around which software licensees (members of the public, teams, league organizers) can play the game, permit others to play, and allow others to watch the game. Up until recently, publishers have been fairly relaxed about their restrictions. Seeking widespread user adoption and popularity, they’ve generally encouraged gamers to share their gameplay under their terms and conditions. However, the industry is now reaching a turning point where the adoption of games and of esports has exploded. Consequently, publishers are looking to capitalize on this audience and momentum by monetizing broadcasting and signing exclusive content deals. And, since players and organizations draw in these fans, they are seeking revenue share agreements with publishers.

MYRIAD OTHER MARKETPLACES, RESOURCES, AND PLATFORMS

- Aspiring Pro Gamer and Fan Resources: Includes everything from news sources, industry statistics tracking, coaching, and skill improvement tools.
- Professional Gaming - Platforms and Infrastructure: Tournament platforms (e.g., Battlefy) and communication tools (e.g., Discord).
- Livestreaming Resources: Streaming platforms, streaming services, game highlights, and esports analytics. In particular, Twitch is one of the most popular streaming sites for esports. It was acquired by Amazon in 2014 for \$970 million and reached close to 5 billion total hours streamed in 2016.
- Betting and Item Marketplaces: Esports gambling, fantasy (with pro-esports athletes), and item marketplaces for in-game customization.

ESPORTS AUDIENCE

The audience of esports reached a total of roughly 385 million people globally in 2017. Of this figure, 191 million are “esports enthusiasts” and 194 million are “occasional viewers.” The number of enthusiasts is projected to grow by 50% by 2020, totaling 286 million.

Most fans are in Asia, North America, and Europe: In the past, people thought that the craze of competitive video gaming was primarily an Asian phenomenon, yet today only 51% of esports



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enthusiasts are in Asia. In fact, North America and Europe have taken a prominent place in the global esports and gaming ecosystem.

Fans are deeply engaged: Fans are already averaging 100 minutes per session spectating. Interestingly, only about half of viewers actually play the video game they are watching. Furthermore, 60% of esports fans are willing to travel to see their favorite games, tournaments, and players.

Fans are young digital natives: Research indicates that 65% of fans are between the ages of 18-34, and, while the fan base does skew male, 38% of esports fans are women. Among American male millennials (age 21 to 35), esports is just as popular as baseball or ice hockey, with 22% watching it. In North America, the most popular sport in the region, football, is only 2x as popular as esports among male millennials. For male viewers between the ages of 36 and 50, football is only 3x as popular.

Esports fans are working professionals with purchasing power: Global marketing firm Mindshare found in a survey that 43% of esports enthusiasts have an annual household income of \$75.000 per year or higher, and nearly one third (31%) have income of \$90.000 or higher. This purchasing power and ability to engage on technology platforms makes the esports audience particularly desirable to target for big brands.

CURRENT MONETIZATION STRATEGIES

A decade ago, one-off sales of packaged home-console software comprised 64% of the global gaming market. Since then, it has fallen to 30%. With esports now included in the 2022 Asian Games, gaming companies can now start to develop similar revenue streams as media companies, including advertising, ticket sales, shares of TV rights and more.

The upcoming year should see esports grow to ~\$700 million, a growth of 41% from the previous year and an increase from \$325 million in 2015. The 2017 figure does not include betting or fantasy esports numbers. Revenues are projected to reach \$1.5 billion by 2020, growing at a CAGR (2015-2020) of 35.6%.

ADVERTISING

Advertising comprises the revenue generated from the advertisements targeting esports viewers, including ads shown during livestreams on online platforms, on video-on-demand content of esports matches, or on esports TV. Brands ranging from Intel and Samsung to Coca-Cola, Arby's, and Redbull are already targeting the esports audience—especially considering their significant buying power. Right now, advertising across esports' many platforms remains much cheaper than doing so on more traditional sports. If the esports viewership and influence continues to expand, exposure to this fan base will get more expensive. Comprising 22% of the industry right now, advertising is one of the largest streams and is expected to grow to \$224 million by 2020.

SPONSORSHIP

The well-known gaming/tech esports sponsors are increasing their involvement and at the same time, lifestyle brands and non-endemic brands (brands not inherent to the gaming industry) are also moving from experimental to dedicated esports budgets. On top of that, local teams, leagues, and events are starting to tap into new marketing budgets to reach this audience.



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The largest driver of revenue for the sector is sponsorships (38%). Sponsorship is expected to grow to \$655 million by 2020, especially as new brands (particularly lifestyle brands) enter the industry in coming years.

GAME PUBLISHER FEES

Currently, game publisher fees represent a large portion of the industry. Much of this capital has been an investment in marketing by game creators in order to extend the shelf life and relevancy of their games. Game publisher fees are expected to experience the slowest growth in the upcoming years.

MERCHANDISE AND TICKETS

Merchandise and ticket revenue is money generated from the sale of merchandise and live tournaments.

MEDIA RIGHTS

Media rights revenue is the revenue paid to industry stakeholders to secure the rights to show esports content on a channel. This includes payments from online streaming platforms to organizers for broadcasting their content. This also includes foreign broadcasters securing rights to show content in their country and paying for copyright to show video content or photos of esports competitions.

In terms of pace, the fastest-growing revenue stream will likely be media rights, which will generate \$340 million by 2020, up from \$95 million this year. Exclusive content deals, as seen in traditional sports, will drive this growth.

FRANCHISING WILL BECOME MAINSTREAM IN NORTH AMERICA.

Similar to how the NFL, NBA, and NHL follow a franchise model with limited membership in their respective sports, esports in North America seems to be following a similar path. A recent announcement from Riot on their League of Legends title has established a franchise model for the North American league. There will be ten spots, each with the hefty price tag of \$10 million to buy in. Activision's title, Overwatch, is also in the process of franchising. In Europe, esports is likely going to follow a promotion and relegation model where teams classify for the league competitively, as in the UEFA Champions League.

As franchising becomes the dominant model, elite teams and organizations will become revenue-generating machines. However, those without franchise spots will be forced to find revenue in secondary leagues or look to establish themselves in titles that have yet to be franchised. This consolidation will certainly be painful initially.

Insider Intelligence, Mariel Soto Reyes Jan 5, 2021, 9:24 PM.

Esports Market Size, Trends, & Key Facts

- Most projections put the esports ecosystem on track to surpass \$1 billion in revenue for the first time this year. And revenue is expected to grow from here — Newzoo projects it to hit \$1.8 billion by 2022.



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Money flows into esports through media rights, live event ticket sales, merchandise sales, and in-game purchases, but most of the revenue (69%) comes from sponsorships and advertising, per Newzoo figures cited by Statista.

- That growing revenue stream comes from around the world:

Asia-Pacific (APAC), North America, and Europe are the top three esports markets, respectively, in terms of audience and revenue. APAC will account for over half (57%) of global esports viewership in 2019, up from 51% in 2017, per Newzoo. Meanwhile, North America is set to hit \$300 million in esports revenue this year, while Europe is expected to reach \$138 million.

The rest of the world only accounts for about 15% of total esports revenue, but it contains several regions to watch. One of the fastest-rising regions is Latin America, which is expected to hit \$18 million in esports revenue in 2019 before skyrocketing to \$42 million by 2023.

- The future of esports will likely be powered by mobile, which will further reduce barriers to entry and allow even more gamers and fans to pour in. The mobile gaming segment is set to make up 45% of the total global games market this year. That popularity is already spilling over into some competitive spaces, as China already has a thriving mobile esports scene.

Video Game Publishers Shine in Media's Top Ten

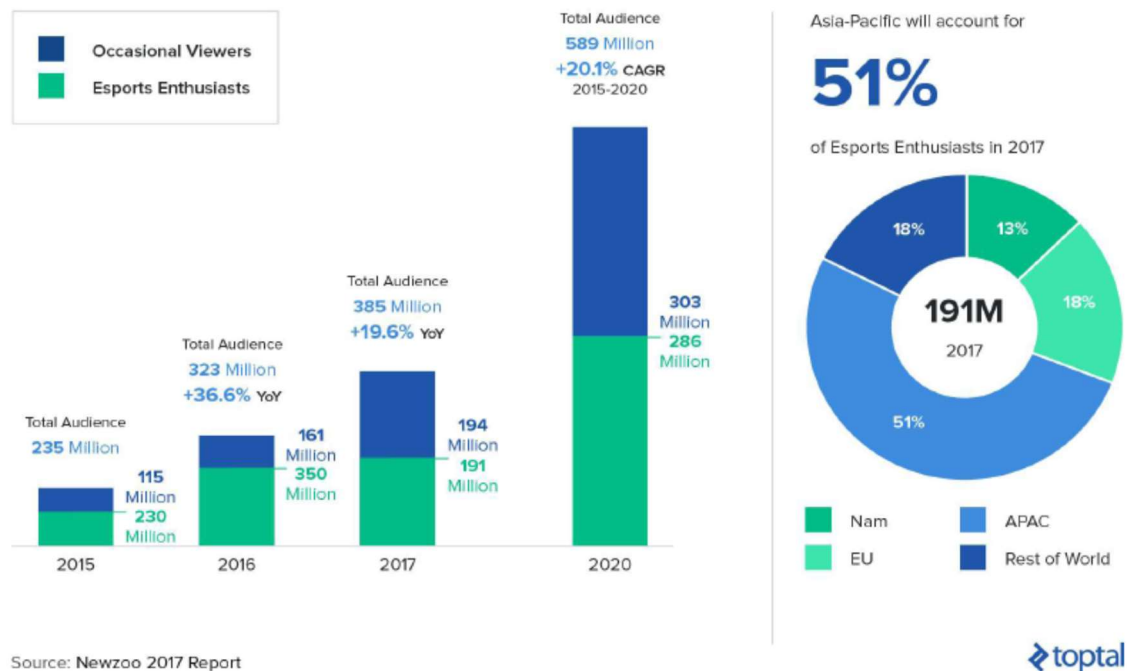
Rank	Company	Headquarters	Segment	Average five-year annual TSR (%) ¹	Market capitalization (\$billions) ²
1	Ubisoft	France	Video games	46.9	8.9
2	Take-Two Interactive Software	US	Video games	42.7	11.7
3	East Money Information	China	Information services	39.2	9.1
4	Netflix	US	Digital media	38.4	116.7
5	World Wrestling Entertainment	US	Entertainment	38.3	5.8
6	NetEase	China	Video games	29.8	30.9
7	Tencent	China	Digital media	29.3	379.1
8	Electronic Arts	US	Video Games	28.0	23.8
9	Nexon	Japan	Video Games	24.4	11.5
10	Wolters Kluwer	Netherlands	Information services	23.1	16.0

Sources: S&P Global Market Intelligence; annual reports; BCG analysis.
Note: Sample includes 56 companies.

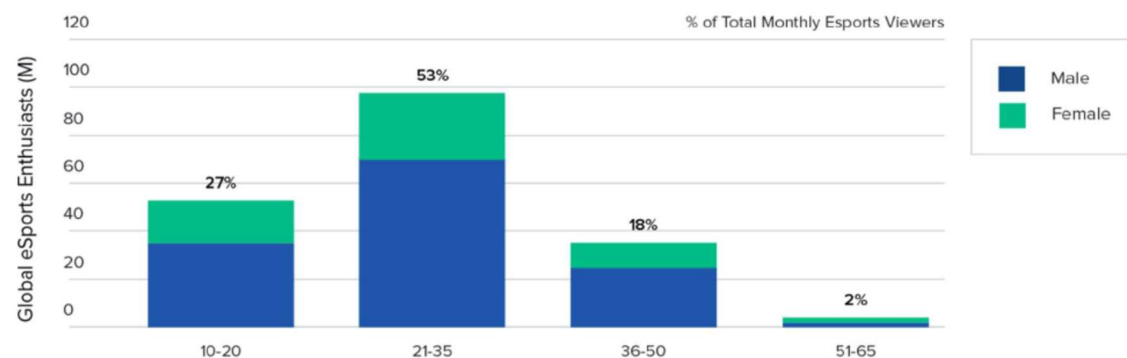
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Global | For 2015, 2016, 2017, 2020 | Q1 2017



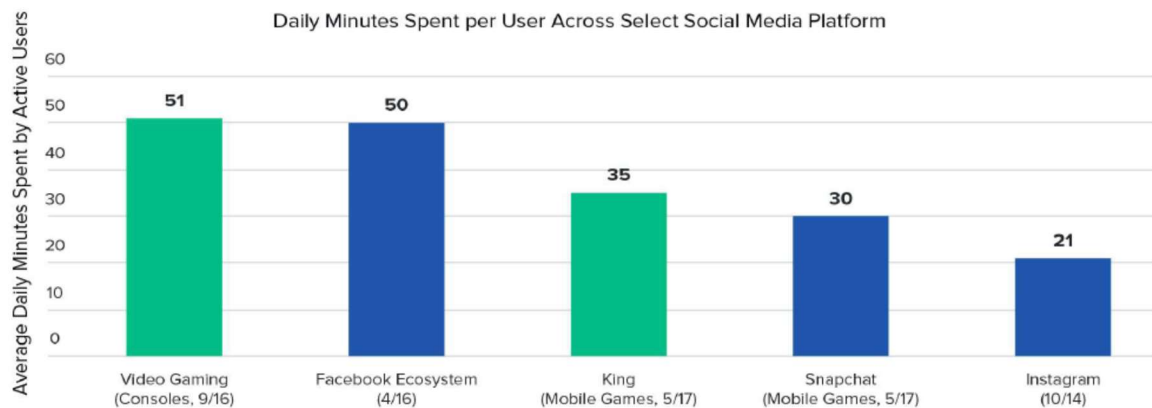
Monthly Esports Viewers by Age/Gender, Global, 2016



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Chart 9: Video Gaming, Most Engaging Form of Digital Media



Note: Video Gaming (Consoles) Global survey, n-17,990, of console users aged 16-64 asking "Roughly how many hours do you spend playing on game console during a typical day." Includes Xbox One, Nintendo Wii U, PS4, Xbox 360, PS3, Nintendo Wii King: Average time spent per DAU. King used to illustrate mobile gaming time spent given the global nature of the platform and large base of daily active users (peaked at 158MM as of Q1:15, 128MM in Q4:15 was last disclosure). Snapchat Average of the 25-30 minutes of daily usage found in the S-1 filing.

Source: Global Web Index (9/16), Facebook Q1:16 Earnings Call (4/16) and Q3:14 Earnings Call (10/14), Activision Q1:17 Earnings Call (5/17), Snapchat Q1:17 Earnings Call (5/17)

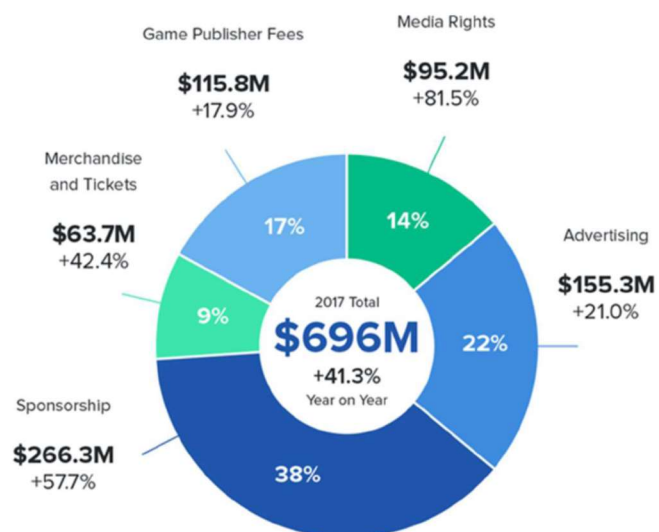


Chart 7: Revenue Per Stream

Global | 2017



*Newzoo's esports revenue figures always exclude revenues from betting, fantasy leagues, and similar cash-payout concepts, as well as revenues generated within games.



Source: Newzoo 2017 Report

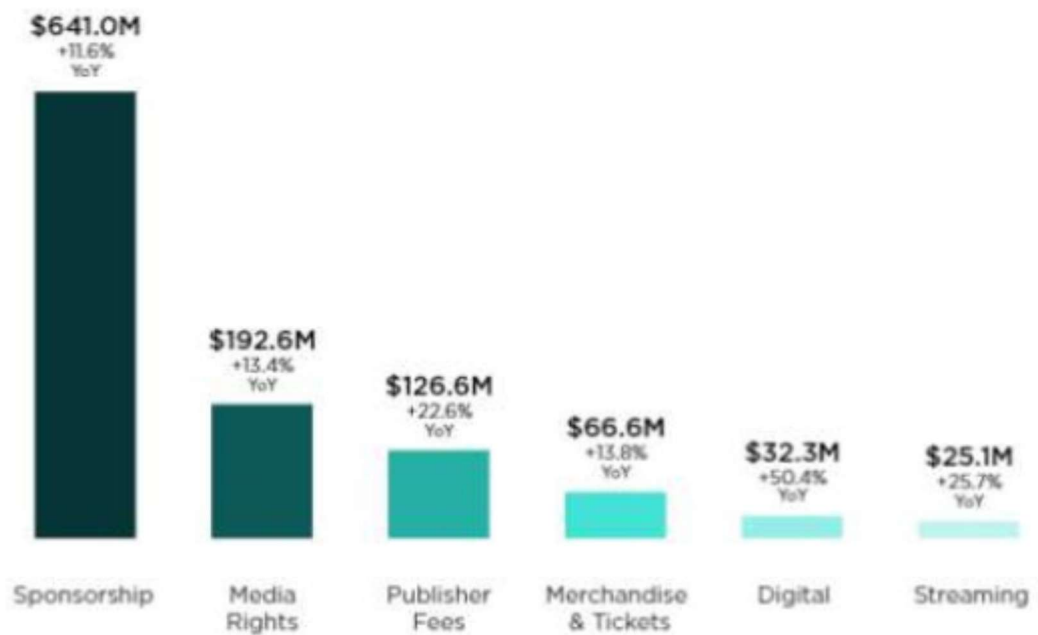




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Esports Revenue Streams Global | 2021



Source: Newzoo, 2021

Table 3: Number of Startups Across Various Industries

	Esports	Video Games	Esports+Video Games	Drones	BitCoin	Internet Of Things	Big Data	Sports	Real Estate	FinTech
AngelList	232	1,837	2,069	540	955	3,442	4,526	5,221	5,850	8,333
Crunchbase	242	1,661	1,903	427	761	2,397	3,756	4,035	5,332	10,442
#Startups*	242	1,837	2,069	540	955	3,442	4,526	5,221	5,850	10,442

*Assuming startups dual list themselves across both platforms, we take the higher one as a benchmark indicator for how much deal volume is in each sector.

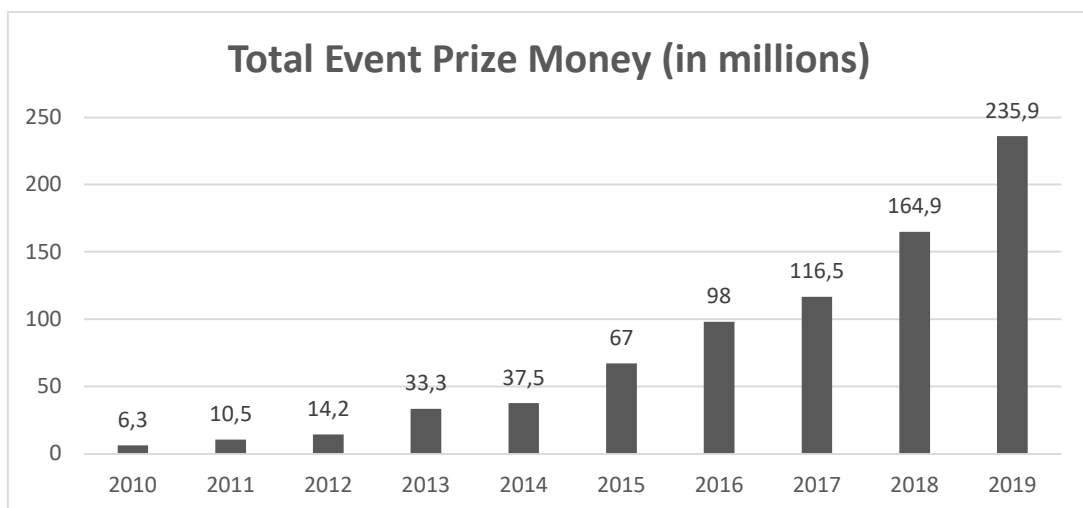
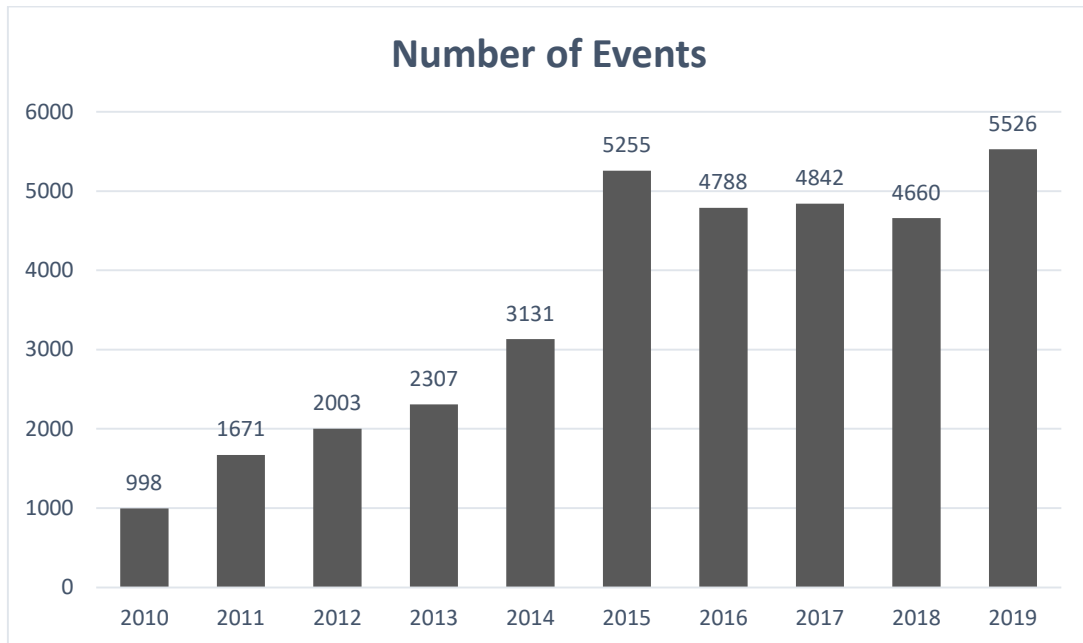
Source: AngelList and Crunchbase





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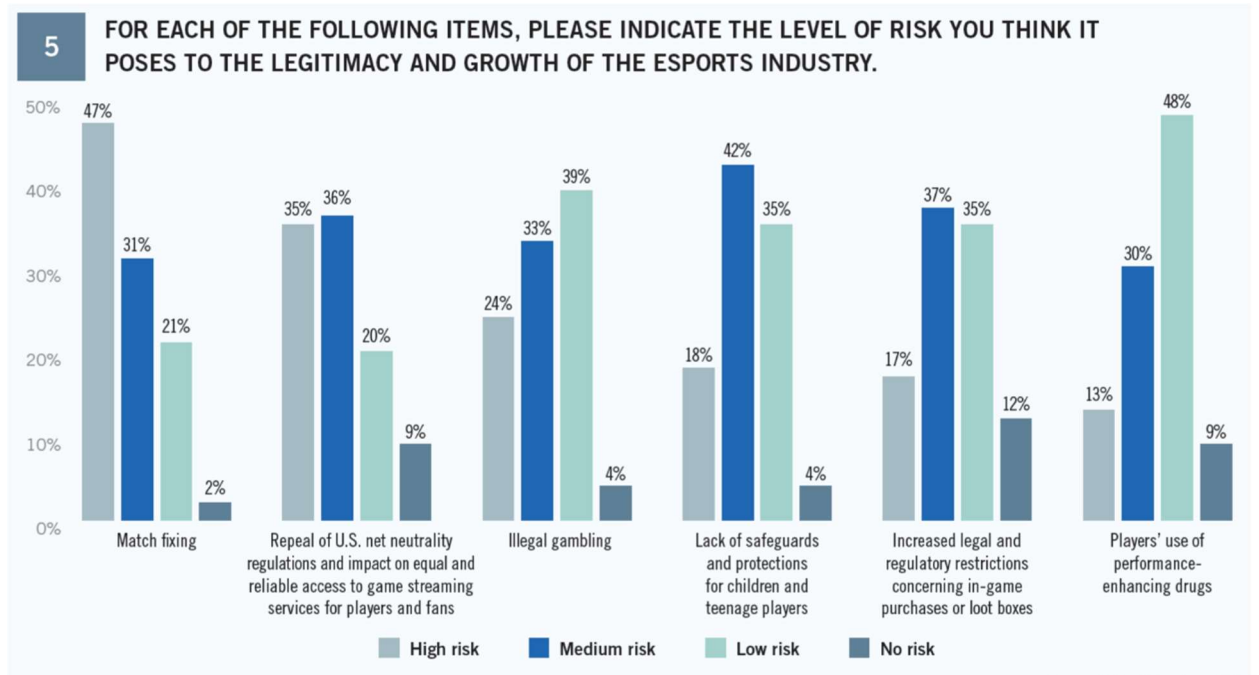


Source: Esports Earnings (accessed May 2021)



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Source: Foley & Lardner ((2018)