

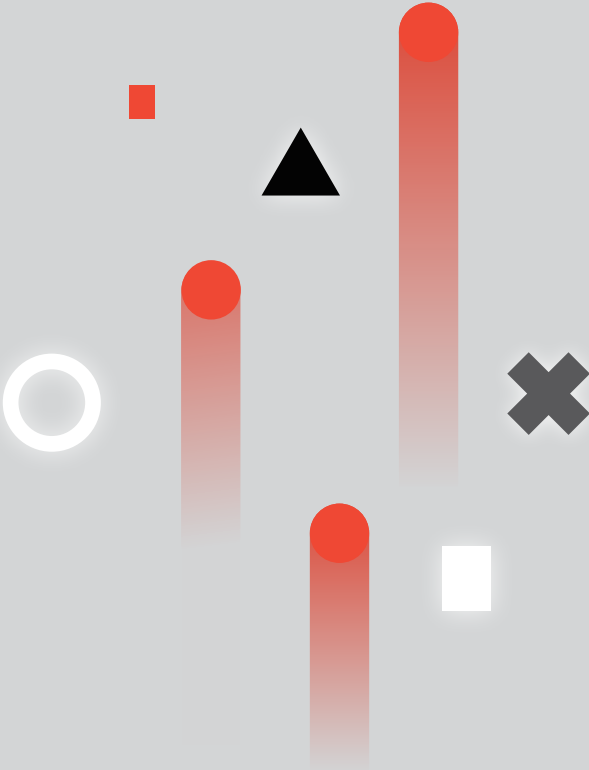
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Taiwan Cultural Content Industries Survey Report. 2021. Vol.IV

Gaming · E-sports Industries



TAICCA



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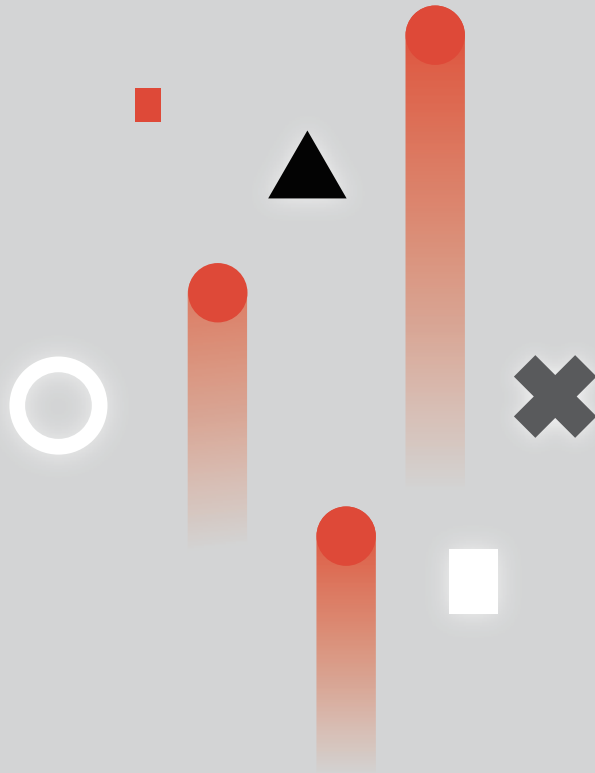
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FOREWORD



1 Scope of the Survey

This report was created in order to accurately reflect the current cultural content industry in Taiwan. It provides the government and the industry with the latest industry development trends and serves as a basis for the establishment of industry development goals and the implementation of policies. In 2021, the Taiwan Creative Content Agency (TAICCA) conducted the Cultural Content Industry Survey Report and divided the industry surveys into four separate volumes according to their industry relevance, including the Book, Magazine, Comic, and Original Image Industries, the Motion Picture, Television, and Animation Industries, the Popular Music and Radio Industries, and the Gaming and Esports Industries.

This is volume IV of the 2021 Cultural Content Industry Survey Report. The subjects of the survey include game development, game operation/agent/distribution, esports events, esports teams, and other industries. The scope of this year's survey is based on the 2020 Game and Esports Industry Survey, including game content creation and production during the upstream creative phase; game operation/agent/distribution during the midstream to downstream end; as well as downstream exhibition/receiving end, which includes game sales channels, digital platforms, virtual treasure (in-game item) trading platforms, esports event sectors, etc. Additionally, supporting services are concentrated in the gaming, esports media, and marketing sectors.

Due to the different number of practitioners in each industry, there were slight differences in survey methods. This year, the survey subjects were divided into two types: "qualitative and quantitative surveys" and "mainly qualitative surveys." The subjects of both qualitative and quantitative surveys included game development, game operation/agent/publishing, esports events, and esports teams; whereas the subjects of mainly qualitative surveys included game channels, digital platforms, virtual treasure trading platforms, games, esports media, marketing sectors, and esports players. Please refer to Figure 1-1 below for the scope of the gaming and esports industries:

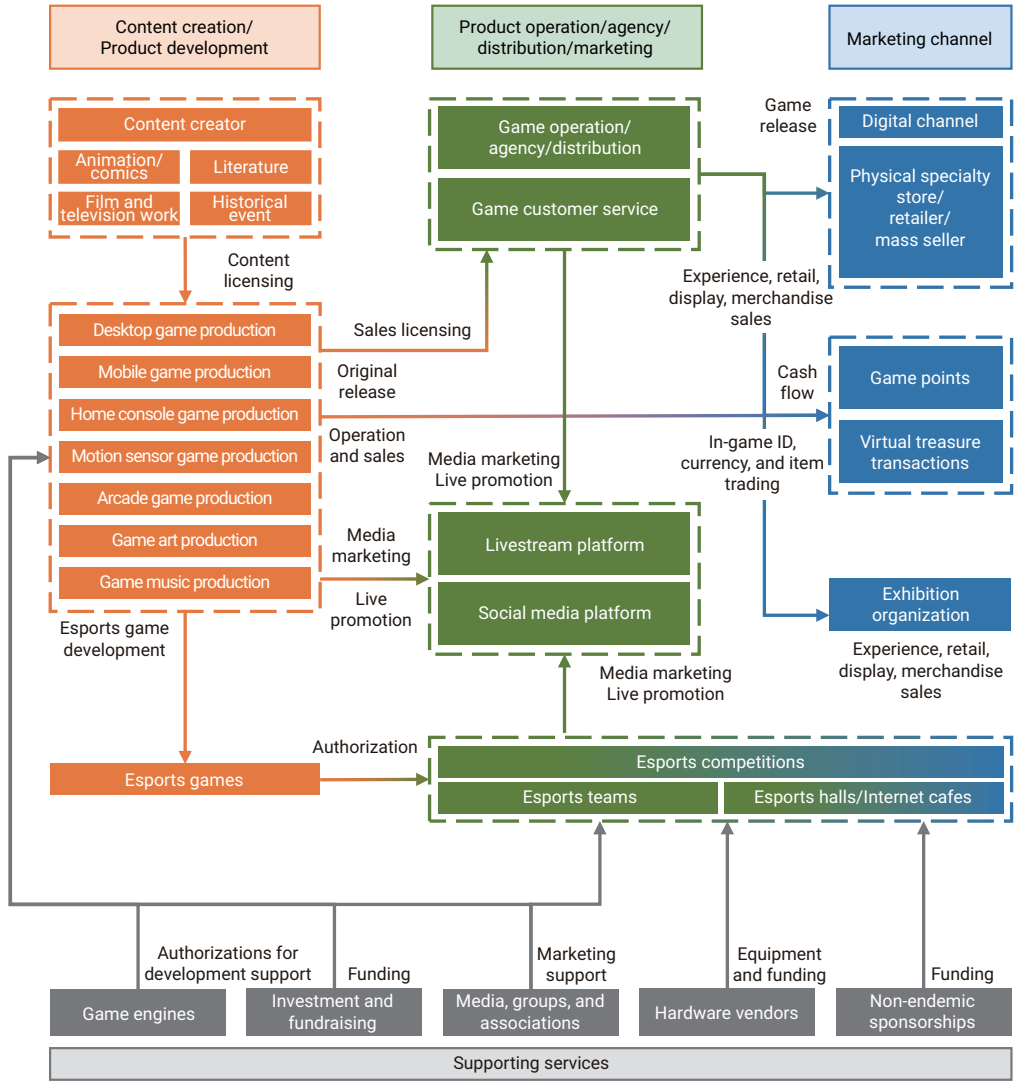


Figure 0-1. Industry scope

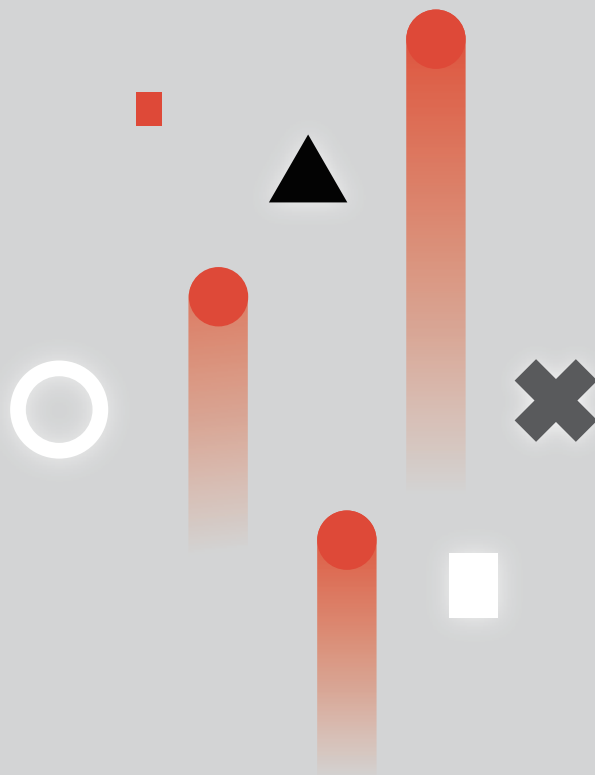
■ **Source:** Created by this survey.

2 Chapter Overview

The 2021 Cultural Content Industry Survey Report Vol. IV: Gaming and Esports Industry is divided into three chapters. Chapter 1 is a spotlight on significant and relevant statistical results from the survey that are of interest to the industry. Chapter 2 is an overview of the industry, which shows the survey results of this year's gaming and esports industries, and gives a brief description of the number of staff, total revenue, total expenditure, and revenue structure of a number of companies. Chapter 3 is a forecast of possible trends and prospects for the industry based on this survey report.

This study followed the survey structure and results from 2020 and conducted quantitative and qualitative surveys on sub-sectors such as the domestic game development industry, game agency/distributor/operation, esports teams, and esports competition leagues. The core items of the survey included industry characteristics, revenue and business model, IP licensing trends, digital development trends, etc. In addition, through special reports on development trends and important issues in the global gaming and esports industries, relevant sectors could refer to this data for subsequent strategy developments in the future.

I SPOTLIGHT



1 Overview of Taiwan's Gaming and Esports Industries Revenue

Total revenue of the gaming and esports industries was estimated to be NT\$58.333 billion in 2020, representing a 27.0% increase over 2019. Revenues from subindustries such as game development, game operation/agency/distribution, esports events, and esports teams were included in the total.

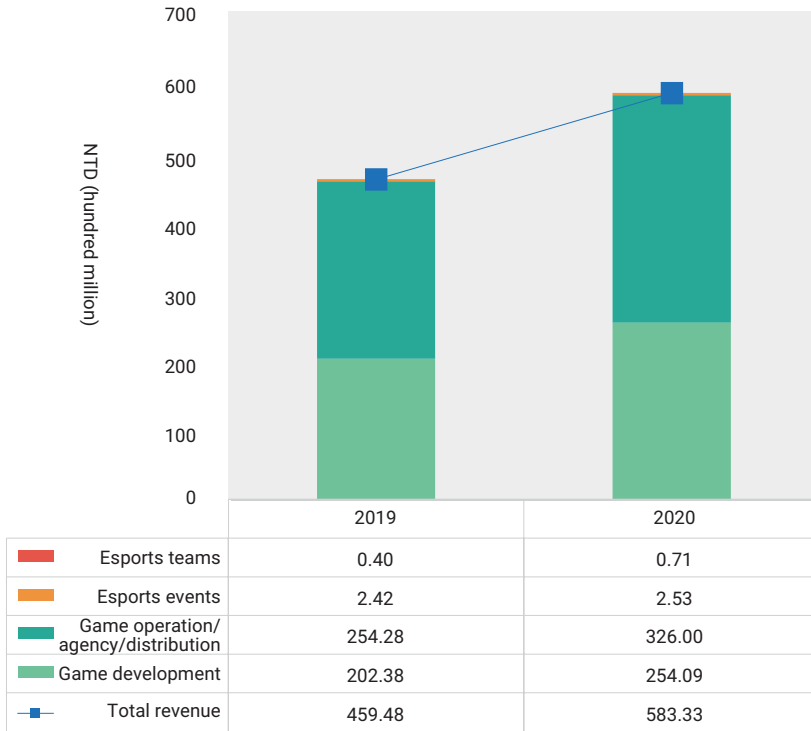


Figure 1-1. Revenue of Taiwan's gaming and esports industries from 2019 to 2020

■ **Source:** Estimated by this survey.

An increased number of enterprises were included in the statistical population of the 2020 survey. By conducting tracking analysis on the same companies from 2019 and 2020, their revenue in 2020 totaled NT\$47.706 billion, up NT\$1.758 billion from the previous year, a total increase of 3.8%.

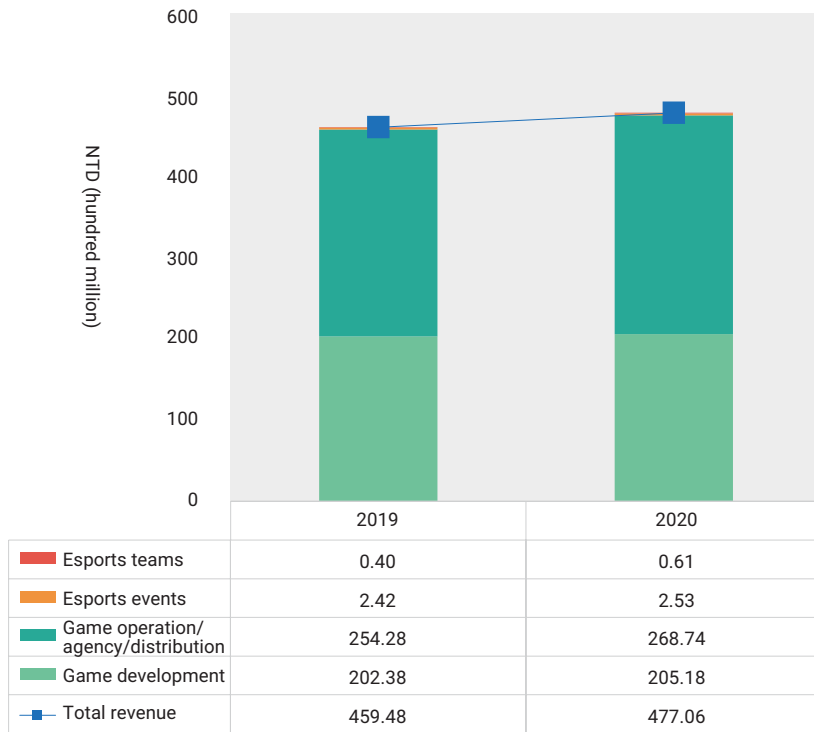


Figure 1-2. Revenue of Taiwan’s gaming and esports industries from 2019 to 2020 (same companies for both years)

■ **Source:** Estimated by this survey.

2 Overview of Taiwan's Game Publishing Industry

In 2020, a total of 1,741 games passed the Taiwan Entertainment Software Rating and were distributed in Taiwan, of which, console games accounted for 52%, followed by PC games, accounting for 24.9%.

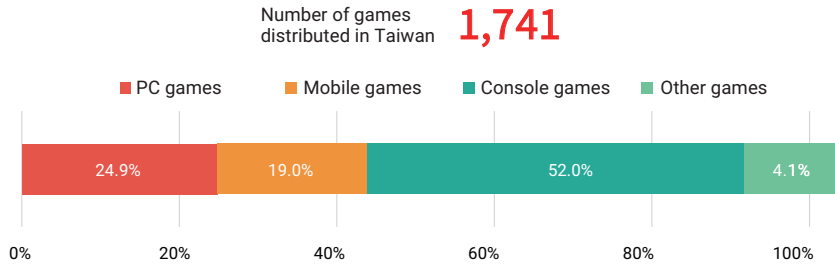


Figure 1-3. Overview of game distribution in Taiwan in 2020

■ **Notes:**

1. The same game released in different packaging, different platforms, and different versions are listed as individual games.
2. Other games included arcade games and motion sensor games.

■ **Source:** Digital Entertainment Software Rating Query Network and this survey

Table 1-1. Games released domestically in 2020 sorted by developer's country of location

	Country	Number of games	Percentage
1	Japan	483	27.7%
2	United States	235	13.5%
3	Taiwan	192	11.0%
4	Mainland China	162	9.3%
5	United Kingdom	101	5.8%

■ **Source:** Digital Entertainment Software Rating Query Network and this survey.

In terms of the genres of games released in Taiwan in 2020, action games ranked the highest, with a total of 391 games, accounting for 22.5% of all games released, followed by role-playing games, with a total of 349 games, accounting for 20%, while the rest of the game genres accounted for less than 10% individually.

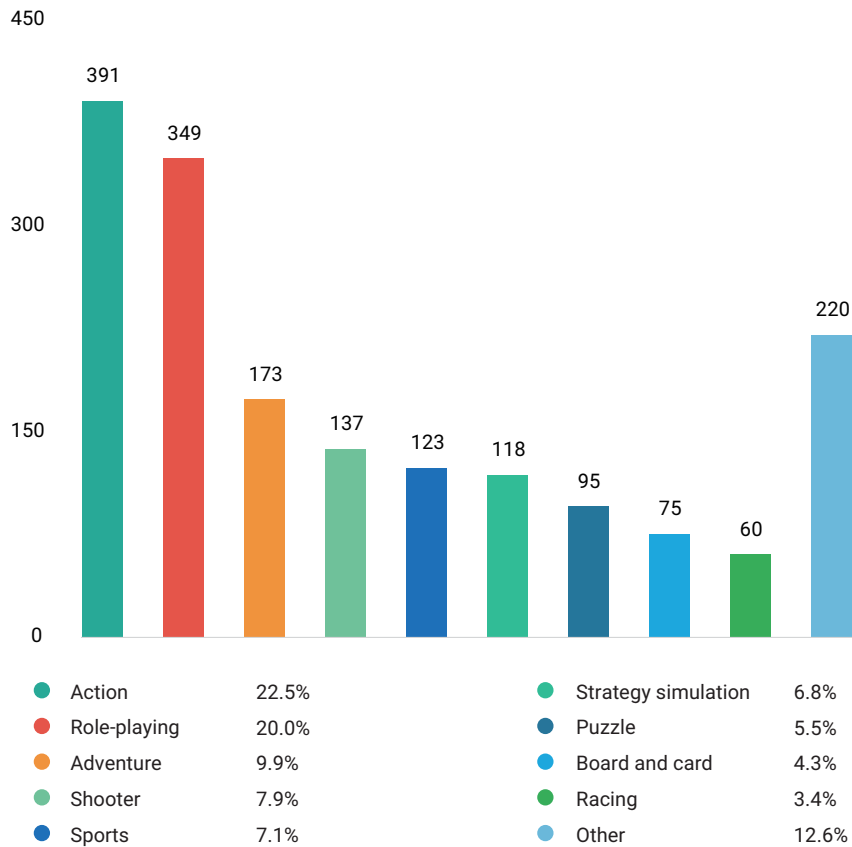


Figure 1-4. Percentage of games released in Taiwan in 2020 by genre

- **Notes:** Other games included casual entertainment, dance, hidden object, or uncategorized games.
- **Source:** Digital Entertainment Software Rating Query Network and this survey.

3 Overview of the Production and Distribution of Games in Taiwan

Among the games that were under development in Taiwan, PC games accounted for the most types, with 85 games, while others (arcade games and motion-sensing games) accounted for the least, with only 9 games. Mobile games made up the most developed games, with 97 games developed, while console games had the fewest developed games, with only 9 games. In terms of completed games that were in operation/agency/distribution, PC games made up the most, with 87 games released, while console games had the least, with only 12 released.

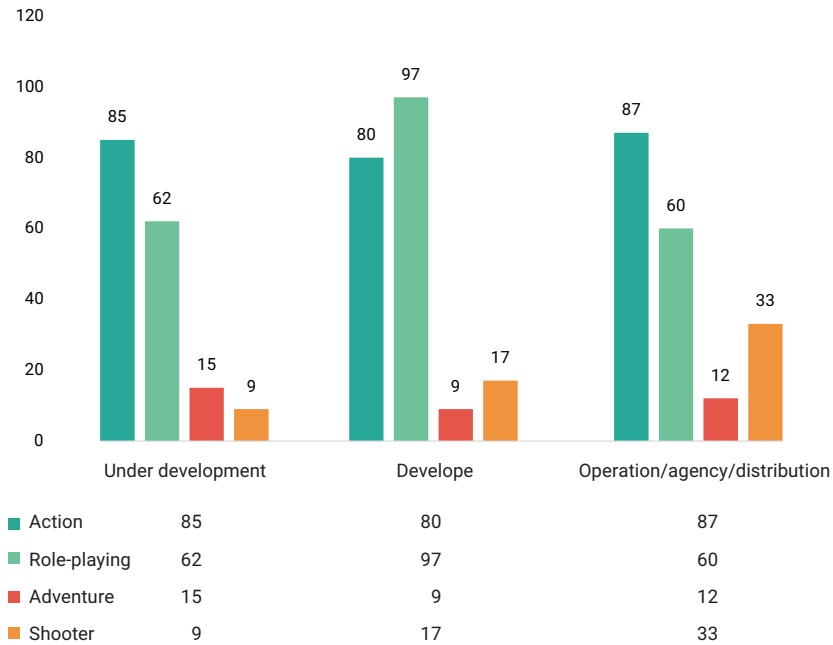


Figure 1-5. Overview of the production and distribution of games in Taiwan in 2020

■ **Notes:**

1. The number of games was calculated by all the data provided by relevant industry players; those that have not provided data will be included in the statistics based on the company's official website information.
2. The data source of game operation/agent/distribution quantity came from the Digital Entertainment Software Rating Query Network of self-made games.
3. Other games included arcade games and motion-sensing games.

■ **Source:** Digital Entertainment Software Rating Query Network and this survey.

Games that were under development in Taiwan were mainly role-playing games, which made up 53.6%; developed games were also mainly role-playing games, making up 53.8%; games in operation/agency/distribution, however, were mainly board and card games, which made up 45.3%.

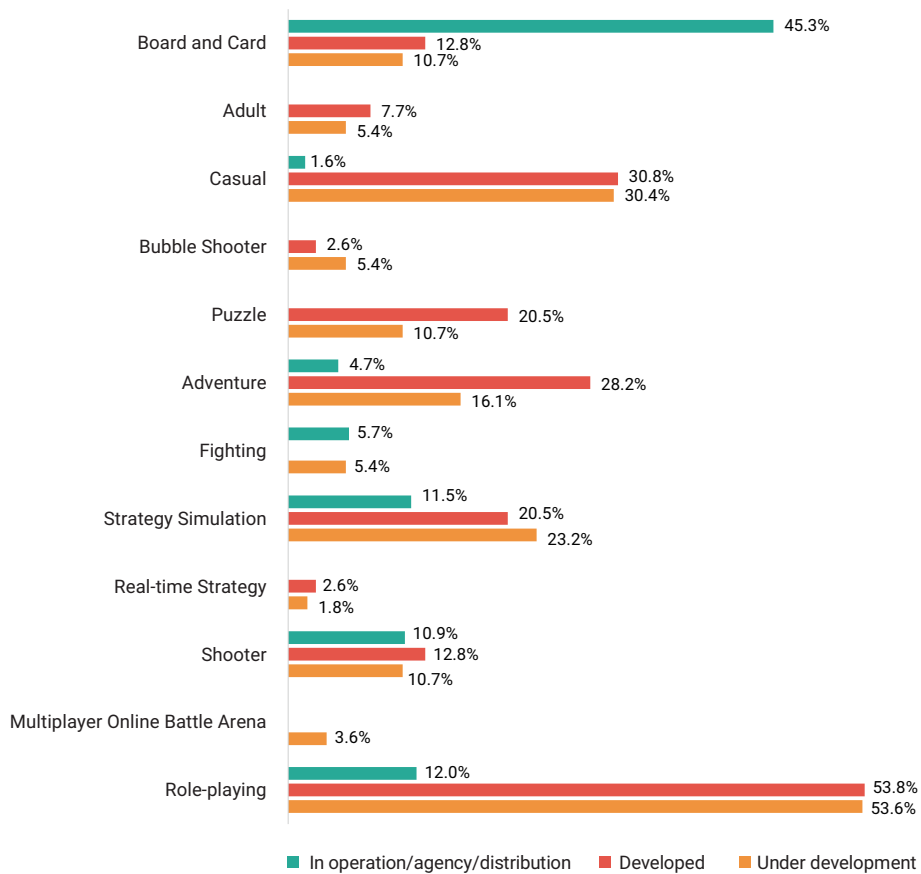


Figure 1-6. Overview of the production and distribution of games in Taiwan in 2020 by game genres

■ **Notes:**

1. Multiple responses were allowed, so the added percentage was greater than 100.
2. The number of companies for games under development totaled 56; the number of companies for developed games totaled 39; and the number of companies for games in operation/agency/distribution totaled 192.
3. Other games included sports, racing, music/dance, dating simulations, and interactive fiction games.

■ **Source:** Digital Entertainment Software Rating Query Network and this survey.

4 Overview of Taiwan's Game Production Sector

The production of games for a variety of devices was investigated in 2019. The average cost of developing PC games was approximately NT \$14.48 million and took approximately 16.1 months to complete; the average cost of developing mobile games was approximately NT \$19.21 million and took approximately 23.1 months to complete; and the average cost of developing console games was approximately NT \$6.67 million and took approximately 12 months to complete.

The 2020 survey examined game production across a range of production costs and discovered that the larger the development scale, the longer it took on average to develop a game. The average time required to develop a game with a development cost of less than NT\$5 million was approximately 8.6 months, while the average time required to develop a large-scale game with a development cost of more than NT\$50 million was approximately 24 months. Additionally, as the scale of development grew, so did expenditures on art/animation. For games with a development budget of less than NT\$5 million, art/animation costs accounted for approximately 31.4% of the total cost; however, for games with a development budget of more than NT\$50 million, art/animation costs accounted for 50.5% of the total cost.

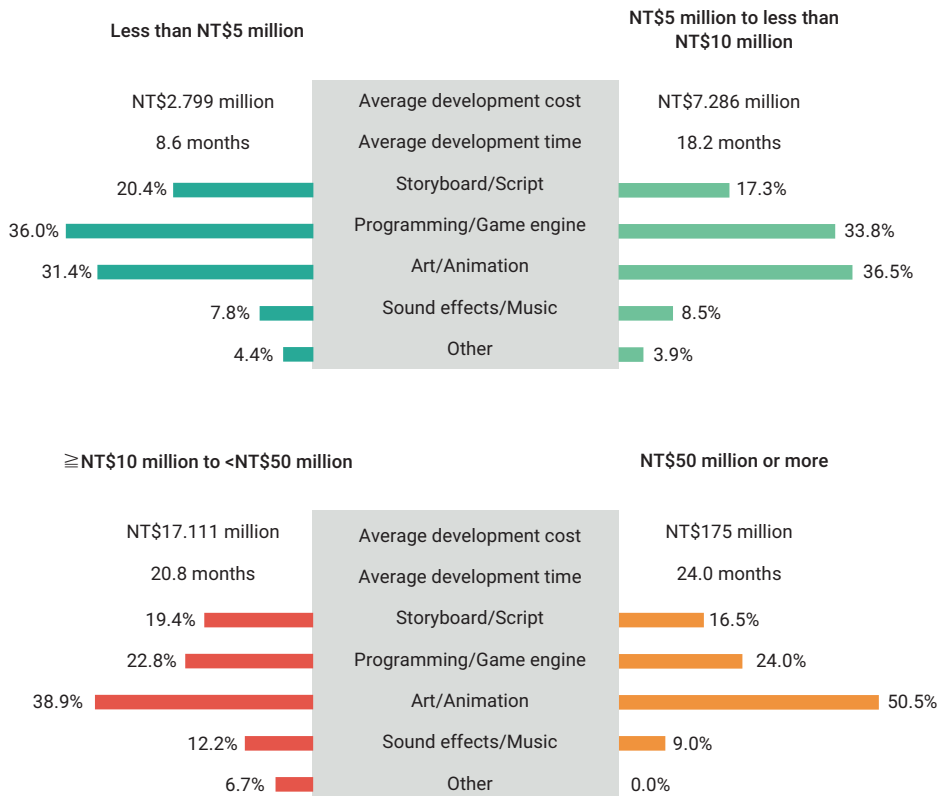


Figure 1-7. Overview of Taiwan's game production in 2020 by development scale

■ **Source:** Organized by this survey study.

5 Overview of Esports Events Held in Taiwan

Due to the pandemic's impact in 2020, the majority of industry participants in Taiwan held esports events online, totaling 484 online events and 9 offline events.

Offline events had higher average cost, income, and prize money in terms of esports events when compared to online events. Online events drew a larger audience than offline events. Offline events had an average of 1,387 attendees, while online events drew an average of approximately 11,342. However, neither online nor offline events were able to break even for the organizers. The average loss per online event was NT\$573,000, compared to NT\$220,000 for offline events.

In comparison to 2019, the number of online events increased by 65; the average income increased by only NT\$53,000; the average cost increased by a greater magnitude of NT\$656,000 (but the prize money increased as well), and the average audience size decreased by 5,491 people. The number of offline events decreased by four in comparison to 2019, while the average cost, income, and prize money all increased slightly. However, the number of spectators decreased by 663.

Online Esports Events		Year	Offline Esports Events	
2019	2020		2020	2019
419	484	Total number of matches	9	13
NT\$550,000	NT\$1.206 million	Average cost	NT\$2.50 million	NT\$2.40 million
NT\$580,000	NT\$633,000	Average income	NT\$2.28 million	NT\$2.03 million
NT\$220,000	NT\$302,000	Average amount of prize money	NT\$883,000	NT\$680,000
16,833 people	11,342 people	Average audience	1,387 people	2,050 people

Figure 1-8. Overview of Taiwan's e-sports industry events from 2019 to 2020

■ **Source:** Organized by this survey study.

In terms of locations where esports events were held, domestic events accounted for 100% of all the events, followed by Southeast Asia and Hong Kong (and Macau), accounting for 17.6% each, and followed by South Korea, accounting for 11.8%.

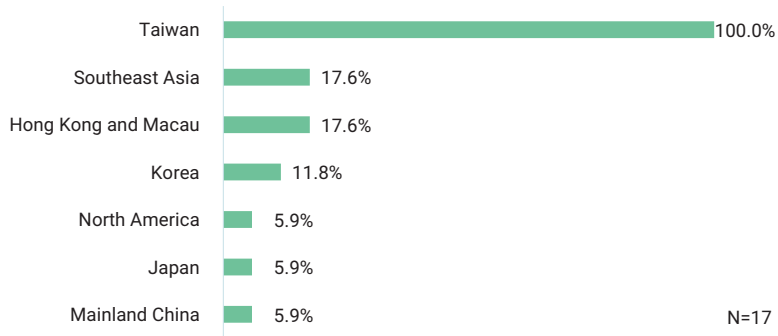


Figure 1-9. Area of activity for Taiwan's esports competitions in 2020 (multiple response questions)

- **Notes:** Multiple responses were allowed, so the added percentage was greater than 100.
- **Source:** Organized by this survey study.

Based on the category of competition held by industry players, the games played in online esports events were VALORANT, which accounted for 38.5% of the game events held, followed by League of Legends, which accounted for 30.8%. For offline competitions, VALORANT was also the most played game, accounting for 40% of the total, and was again followed by League of Legends, accounting for 30%. Other games accounted for 46.2% of the online events and 40% of the offline events. These games include Apex Legends, Call of Duty: Mobile, Legends of Runeterra, CrazyRacing KartRider, League of Legends: Wild Rift, Tekken 7, and War Clash, etc.

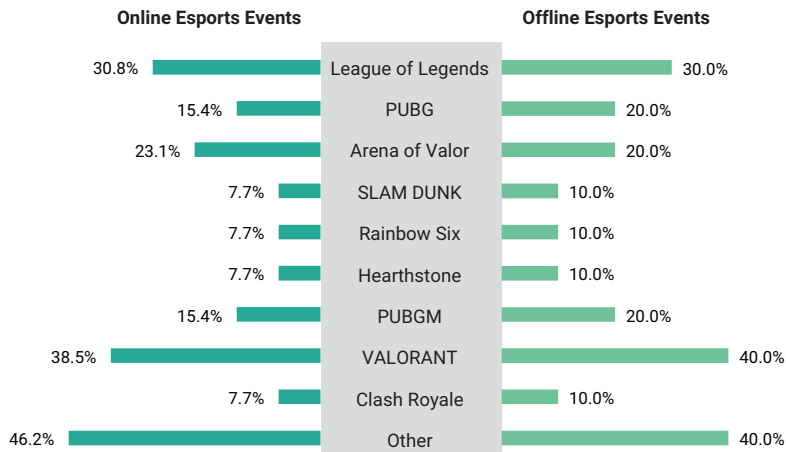


Figure 1-10. Overview of the types of games held by Taiwan’s e-sports companies in 2020

■ **Notes:**

1. There were 13 companies that organized online esports events and 10 companies that organized offline esports events.
2. Other games included Apex Legends, Call of Duty: Mobile, Legends of Runeterra, CrazyRacing KartRider, League of Legends: Wild Rift, Tekken 7, and War Clash.
3. The industry survey was based on the type of competition held rather than the number of competitions.

■ **Source:** Organized by this survey study.

6 Overview of Taiwan’s Esports Teams and Talent Availability

An esports team is composed of four categories of professionals: players, trainees, coaches, and staff. The following section defines each category of personnel.

Table 1-2. Esports team structure

Job Title	Description
Player	Professional players are players who have been officially registered on the team roster for a specific esports competition category.
Trainee	Trainees are players who have demonstrated the potential to develop into professional players in a particular esports title. They join an esports team on short-term contracts in order to receive additional training. Trainees are typically 14–17-year-old students who are still enrolled in school prior to becoming officially registered professional players.
Coach	Coaches are retired professional players or highly experienced amateur players who assist players in acquiring game knowledge, developing competition strategies, and building mental fortitude.
Staff	Staff for an e-sports team includes team leads, managers, esports team analysts, game analysts, nutritionists, and other support roles that help players prepare for competitions.

■ **Source:** Chinese Taipei Esports Association.

In 2020, the average esports team would consist of 15 members, including seven professional players, two trainees, two coaches, and four logistics personnel. Professional players have an average career length of 2.5 years, trainees have an average career length of 0.6 years, and coaches have an average career length of 5.2 years. In terms of management contracts, 83% of professional athletes have signed them, while 43.6% of trainees and 61.1% of coaches have.

In 2020, the size of esports teams, the number of regular players, trainees, coaches, and staff all decreased in comparison to 2019, but the percentage of various personnel with management contracts increased.

Table 1-3. Overview of Taiwan's esports teams in 2020 by manpower

Job title	Survey year	Average number of people	Average career length (years)	Percentage of those with management contracts
Professional players	2020	7	2.5	83.0%
	2019	15	2.5	64.8%
Trainees	2020	2	0.6	43.6%
	2019	4	1	30.0%
Coaches	2020	2	5.2	61.1%
	2019	3	6.4	36.7%
Staff	2020	4	-	-
	2019	6	-	-

■ **Source:** Chinese Taipei Esports Association.

7 Source of Funding for Taiwan's Esports Teams

The majority of funding for the esports industry came from parent companies (57.1%), followed by gaming equipment manufacturers (28.6%) and game developers (21.4%). The percentage of funding from parent companies decreased for esports teams in 2020 compared to 2019, while the percentage of funding from equipment manufacturers increased from 10% to 28.6%.

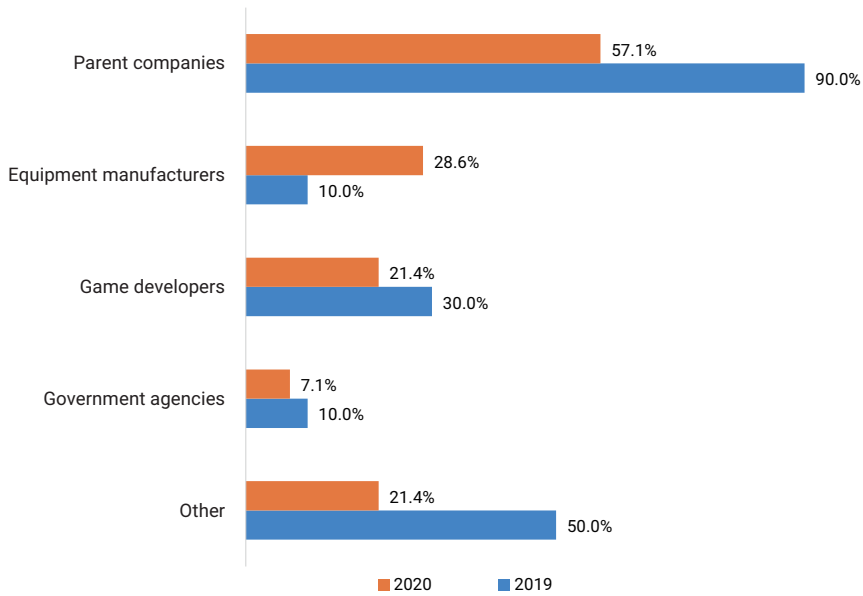
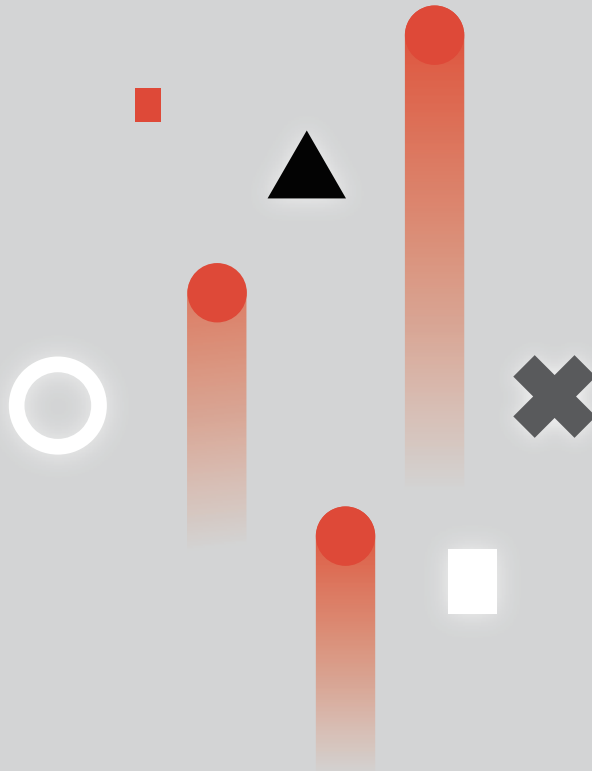


Figure 1-11. Source of capital for Taiwan's esports teams from 2019 to 2020

- **Notes:** Multiple responses were allowed, so the added percentage was greater than 100.
- **Source:** Organized by this survey study.

II OVERVIEW



1 Overall Industry

1.1. Industry overview

The statistical population of this year’s survey on gaming and esports industries consisted of 231 companies, with an estimated number of 13,879 employees, a total revenue of NT\$58.3 billion and a total expenditure of NT\$45.5 billion.

Number of companies	231	Revenue	NT\$ 58.3 billion
Number of employees	13,879	Expenditure	NT\$ 45.5 billion

Figure 2-1. Overview of Taiwan’s gaming and esports industries in 2020

■ **Source:** Organized by this survey study.

Within the industry, the number of gaming companies was 206, with a total of approximately 13,146 employees, a revenue of about NT\$ 58.009 billion, and an expenditure of about NT\$45.222 billion. The number of esports companies totaled 25, with a total of approximately 733 employees, a revenue of about NT\$324 million, and an expenditure of NT\$334 million.

Gaming Industry		Esports Industry
206	Total number of companies	25
Approx. 13,146	Total number of employees	Approx. 733
Approx. NT\$58.009 billion	Total revenue	Approx. NT\$324 million
Approx. NT\$45.222 billion	Total expenditure	Approx. NT\$334 million
Approx. NT\$282 million	Average revenue (including newly added statistical populations)	Approx. NT\$13 million
Approx. NT\$220 million	Average expenditure (including newly added statistical populations)	Approx. NT\$13 million

Figure 2-2. Overview of the main industries of Taiwan’s gaming and esports in 2020

■ **Notes:** Companies were divided into two categories depending on their main operations: game development and game operation/agency/publishing.

■ **Source:** Organized by this survey study.

1.2. Capital size of Taiwan's gaming and esports industries

In terms of the capital size, 38.5% of the industry players had a capital of less than NT\$5 million, followed by 28.6% of those with a capital of NT\$5 million to NT\$50 million, 21.6% of those with a capital of NT\$50 million to less than NT\$500 million, and lastly, 11.3% of those with a capital of more than NT\$500 million.

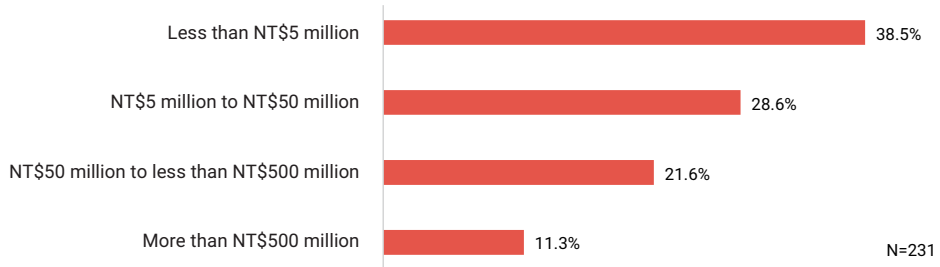


Figure 2-3. Overall capital size of Taiwan's gaming and esports industries in 2020

■ **Source:** Organized by this survey study.

1.3. Regional distribution of Taiwan’s gaming and esports industries

Companies in the gaming and esports industries were mostly concentrated in northern Taiwan, accounting for 85.7% of the total, with central and southern Taiwan each accounting for less than 10% (the central region accounted for 8.5% and the southern region accounted for 5.8%).

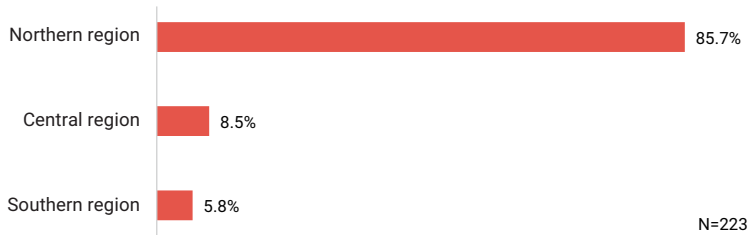


Figure 2-4. Regional distribution of Taiwan’s gaming and esports industries in 2020

■ **Notes:**

1. The northern region included Taipei City, New Taipei City, Keelung City, Taoyuan City, Hsinchu City, Hsinchu County, and Yilan County; the central region included Miaoli County, Taichung City, Changhua County, Nantou County, and Yunlin County; and the southern region included Chiayi County, Chiayi County City, Tainan City, Kaohsiung City, and Pingtung County.

2. A total of eight companies did not have a registered address.

■ **Source:** Organized by this survey study.

1.4. Number of employees in Taiwan’s gaming and esports industries

In 2020, the number of employees in Taiwan’s gaming and esports industries was estimated at 13,879. According to the analysis on employee numbers, 72.3% of the companies had fewer than 50 employees. Among them, those with 16 to 50 employees accounted for the largest number of companies, at 33.8%, followed by 20.3% of those with less than 5 employees. Companies with over 101 employees accounted for 17.7% of the total.

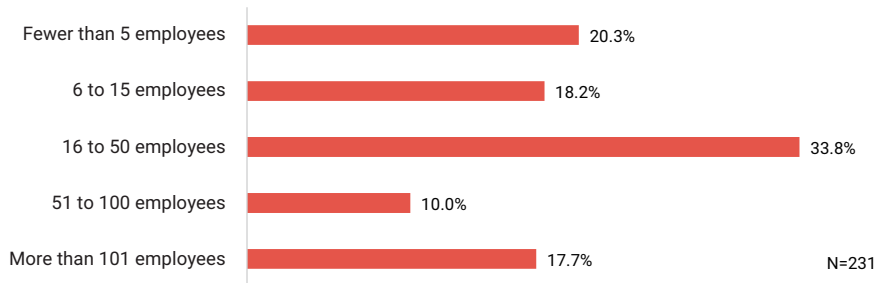


Figure 2-5. Number of employees in Taiwan’s gaming and esports industries in 2020

■ **Source:** Organized by this survey study.

2 Gaming Industry

2.1. Industry overview

The statistical population of this year’s survey on the gaming industry consisted of 206 companies, with an estimated number of 13,146 employees, a total income of NT\$58.0 billion and a total expenditure of NT\$45.2 billion.

Number of companies	206	Revenue	NT\$ 58.0 billion
Number of employees	13,146	Expenditure	NT\$ 45.2 billion

Figure 2-6. Overview of Taiwan’s gaming industry in 2020

■ **Source:** Organized by this survey study.

2.2. Overview of the subindustries in Taiwan’s gaming industry

The subindustries are divided into game development and game operation/agency/distribution. The total number of companies and employees in game development was higher (131 companies and about 6,832 employees) than in game operation/agency/distribution, but the latter had a higher average revenue and average expenditure (NT\$435 million and NT\$384 million, respectively).

Game Development		Game Operation/ Agency/Distribution
131	Total number of companies	75
Approx. 6,832	Total number of employees	Approx. 6,314
Approx. NT\$25.409 billion	Total revenue	Approx. NT\$32.6 billion
Approx. NT\$16.4 billion	Total expenditure	Approx. NT\$28.873 billion
Approx. NT\$193 million	Average revenue	Approx. NT\$435 million
Approx. NT\$125 million	Average expenditure	Approx. NT\$384 million

Figure 2-7. Overview of the subindustries in Taiwan’s gaming industry in 2020

■ **Notes:** Companies were divided into two categories depending on their main operating activity: game development and game operation/agency/publishing.

■ **Source:** Organized by this survey study.

2.3. Overview of the services provided by Taiwan’s gaming industry

In terms of services provided by the gaming industry, game development accounted for the highest percentage (71.8%), followed by game agency distribution (40.8%) and game operation (39.3%). If other services were not considered, game distribution channel services accounted for the least, at 6.8%.

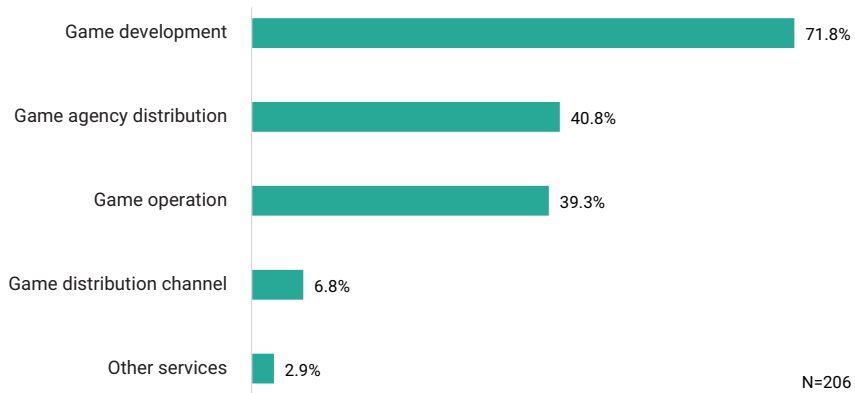


Figure 2-8. Percentage of the services provided by Taiwan’s gaming industry in 2020

■ **Notes:**

1. Multiple responses were allowed, so the added percentage was greater than 100.
2. Other services included IP designs, planning, outsourced designs, cash flow services, online information services, commissioned game development, etc.

■ **Source:** Organized by this survey study.

In terms of the service items provided by Taiwan’s gaming industry, mobile game development accounted for the highest percentage (51.9%), followed by game agency distribution (40.8%), and PC game development (40.3%). If other services were not taken into account, virtual treasure (in-game item) trading platforms made up only 1.5% of the total.

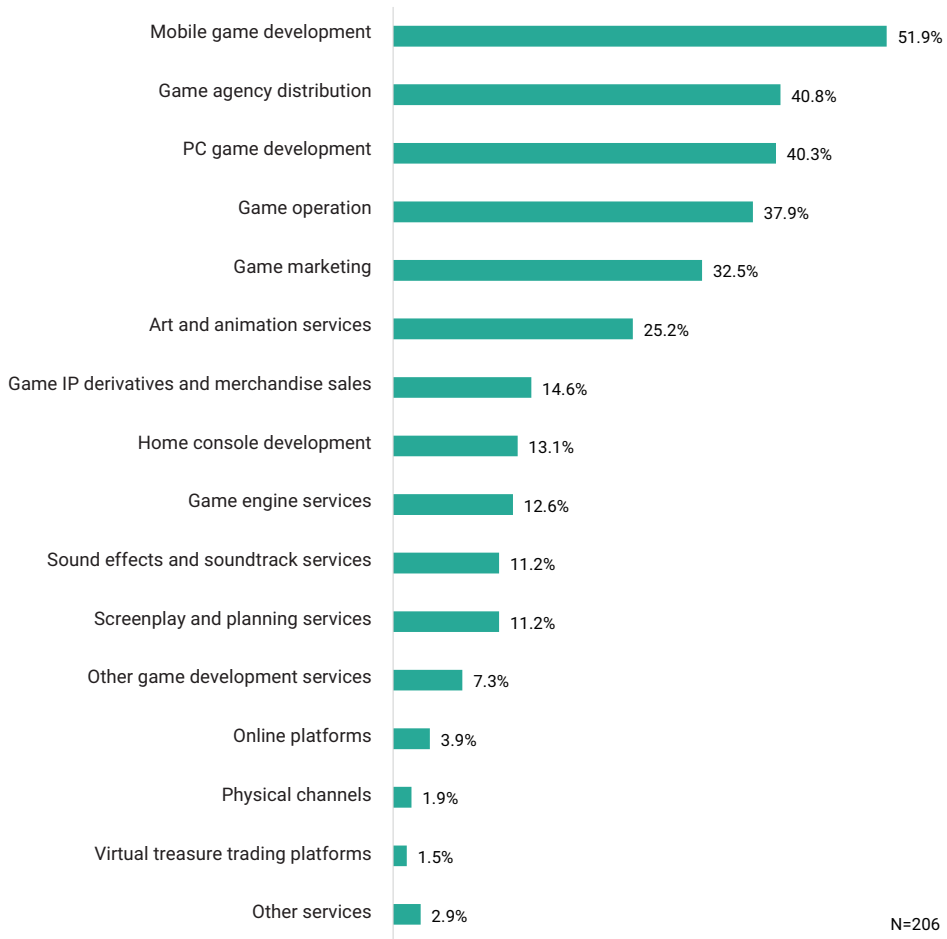


Figure 2-9. Percentage of the service items provided by Taiwan’s gaming industry in 2020

■ **Notes:**

1. Multiple responses were allowed, so the added percentage was greater than 100.
2. Other game development services included AR, VR, MR, arcade machines for commercial use, video game consoles, etc.

■ **Source:** Organized by this survey study.

2.4. Capital size of Taiwan's gaming industry

According to the capital size, 35.4% of the gaming industry businesses had a capital of less than NT\$5 million, followed by 30.1% of those with a capital of NT\$5 million to NT\$50 million, 22.4% of those with a capital of NT\$50 million to less than NT\$500 million, and lastly, 12.1% of those with a capital of more than NT\$500 million.

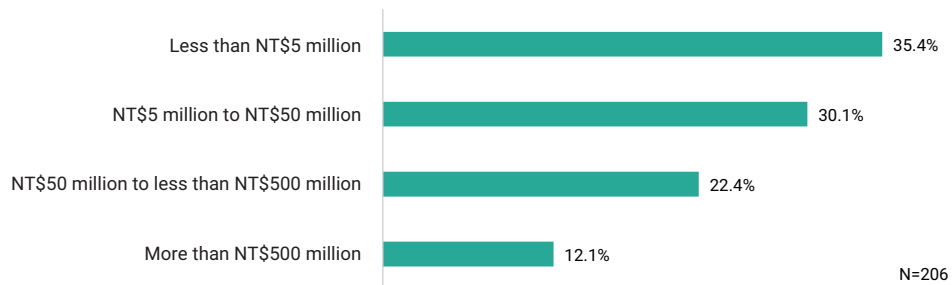


Figure 2-10. Capital size of Taiwan's gaming industry in 2020

■ **Source:** Organized by this survey study.

2.5. Regional distribution of Taiwan's gaming industry

Companies in the gaming industry were mostly concentrated in northern Taiwan, accounting for 84.8% of the total, with central and southern Taiwan each accounting for less than 10% (the central region accounted for 8.6% and the southern region accounted for 6.6%).



Figure 2-11. Regional distribution of Taiwan's gaming industry in 2020

■ **Notes:**

1. The northern region included Taipei City, New Taipei City, Keelung City, Taoyuan City, Hsinchu City, Hsinchu County, and Yilan County; the central region included Miaoli County, Taichung City, Changhua County, Nantou County, and Yunlin County; and the southern region included Chiayi County, Chiayi County City, Tainan City, Kaohsiung City, and Pingtung County.

2. A total of eight companies did not have a registered address.

■ **Source:** Organized by this survey study.

2.6. Number of employees in Taiwan’s gaming industry

The total number of employees in the gaming industry was 13,146. According to the analysis on employee numbers, 70.8% of the companies were small and medium-sized enterprises (SMEs) with fewer than 50 employees. Among them, those with 16 to 50 employees accounted for the largest number of companies, at 33.5%, followed by 22.3% of those with less than 5 employees. Companies with 101 or more employees accounted for 19.4% of the total.

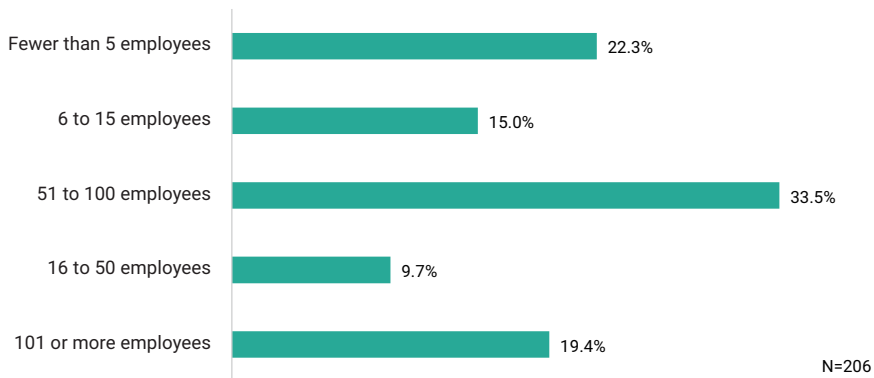


Figure 2-12. Number of employees in Taiwan’s gaming industry in 2020

- **Notes:** Percentages do not add up to 100% due to rounding of data.
- **Source:** Organized by this survey study.

2.7. Revenue structure of Taiwan's gaming industry

The revenue of Taiwan's gaming industry came mostly from online and game revenues, accounting for 60.9% of the total, followed by labor and technical service revenues, accounting for 17%. Other revenue sources included endorsements, event implementations, placement advertising, esports training, etc.

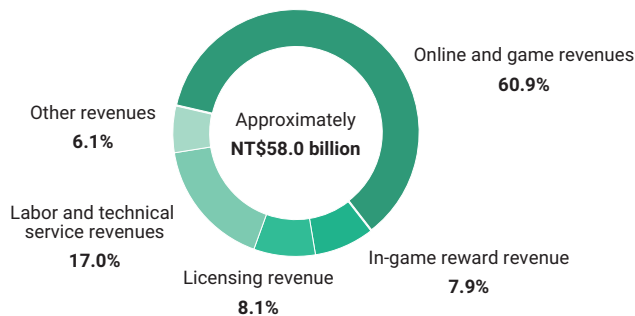


Figure 2-13. Revenue structure of Taiwan's gaming industry in 2020

■ **Source:** Organized by this survey study.

2.8. Expenditure structure of Taiwan's gaming industry

In terms of Taiwan's gaming industry expenditures, personnel management expense accounted for the highest percentage, at 23.7%, followed by cost of goods sold, accounting for 17.7%. Other expenses included the cost of servers, dedicated lines for the internet, rent, materials, utilities, payment collection on behalf of others, etc.

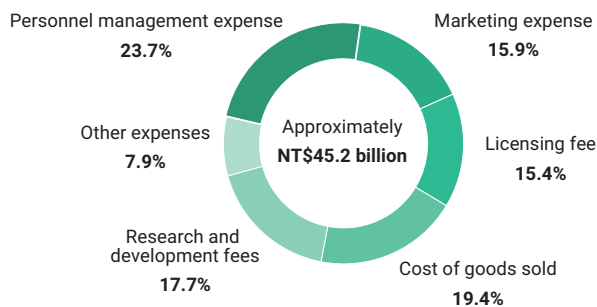


Figure 2-14. Expenditure structure of Taiwan's gaming industry in 2020

■ **Source:** Organized by this survey study.

2.9. Overview of Taiwan’s gaming industry licensing revenue

The licensing income of the gaming industry was approximately NT\$4.699 billion in 2020, an increase of NT\$3.01 billion from NT\$1.689 billion in 2019. The ratio of domestic and foreign licensing revenues was nearly 1:1 in 2019, but the percentage of foreign licensing revenues increased to 63.2% in 2020.

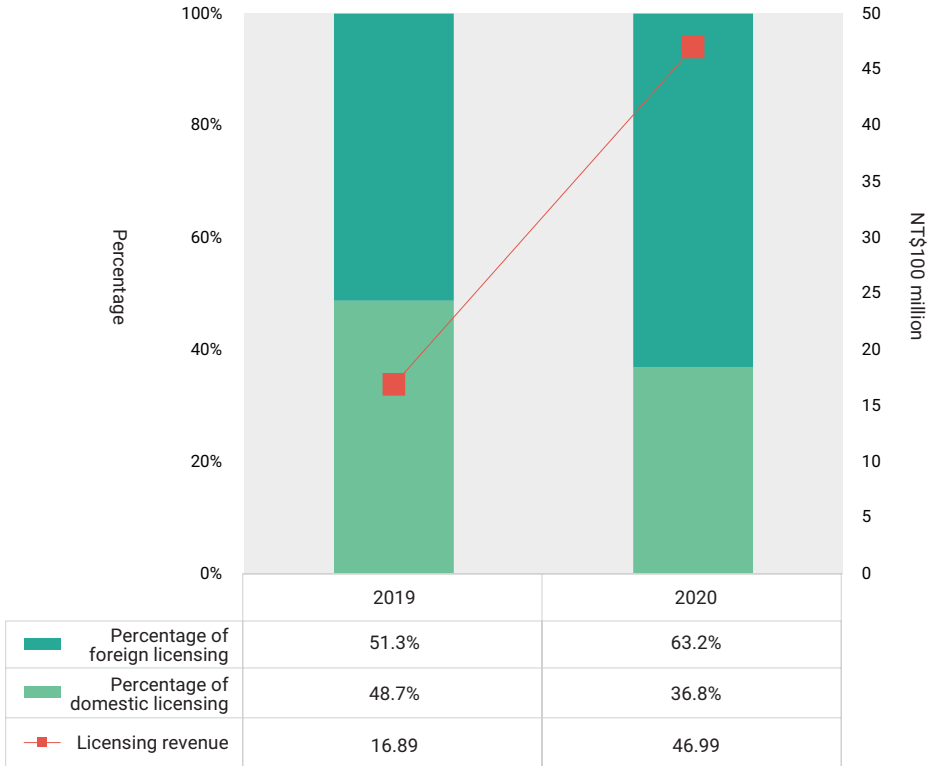


Figure 2-15. Licensing revenue of Taiwan’s gaming industry from 2019 to 2020

■ **Source:** Organized and estimated by this survey study.

2.10. Overview of Taiwan's gaming industry licensing expenditure

The licensing expenditure of the gaming industry was approximately NT\$6.964 billion in 2020, an increase of NT\$496 million from NT\$6.468 billion in 2019 (7.67% growth). In both years, the percentage of foreign licensing expenditure was higher than domestic licensing expenditure. In 2019, foreign licensing costs made up 89.2% of all licensing costs. In 2020, they made up 73% of all licensing costs.

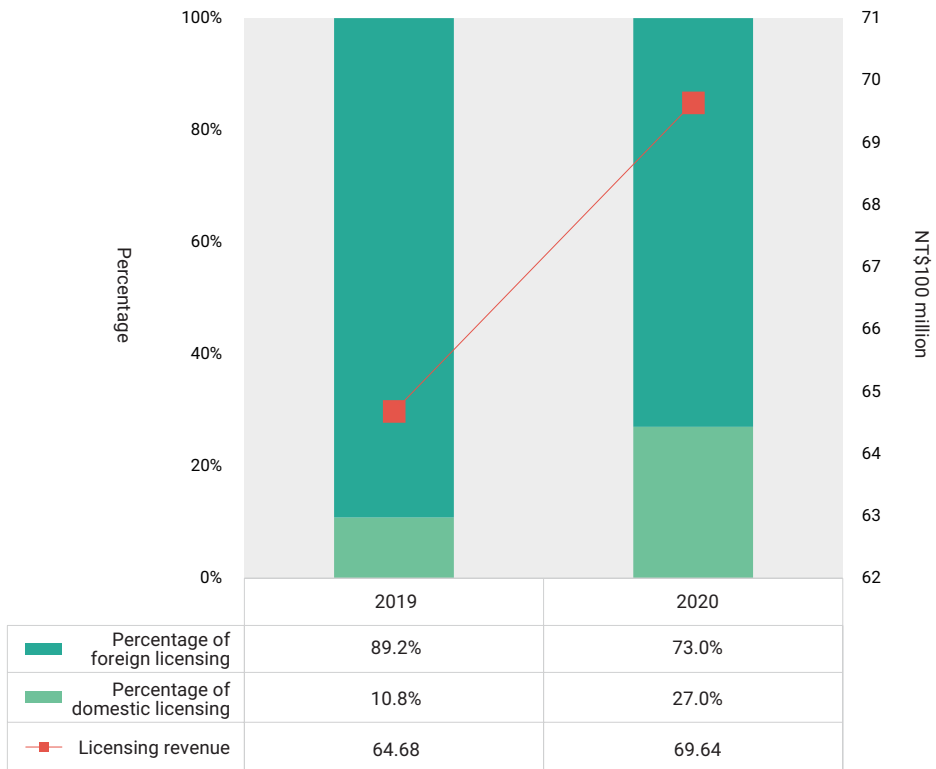


Figure 2-16. Licensing expenditure of Taiwan's gaming industry from 2019 to 2020

■ **Source:** Organized and estimated by this survey study.

2.11. Content acquisition for game development in Taiwan

In 2020, 89.7% of the companies surveyed developed their game content in-house, up 4.9 percentage points from 84.8% in 2019, while acquisition from external sources accounted for 10.3%.

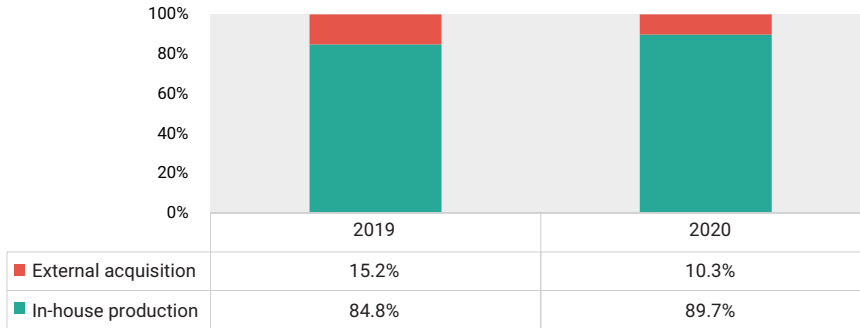


Figure 2-17. Overview of content acquisition for game development in Taiwan from 2019 to 2020

■ **Source:** Organized by this survey study.

Among those who obtained content from external sources, co-development with creators was the most frequently used business model for game developers in the last two years, 80% in 2019 and 71.4% in 2020. Direct purchase from original creators was the second most popular model in 2020, accounting for 42.9%, an increase of 22.9 percentage points over 2019.

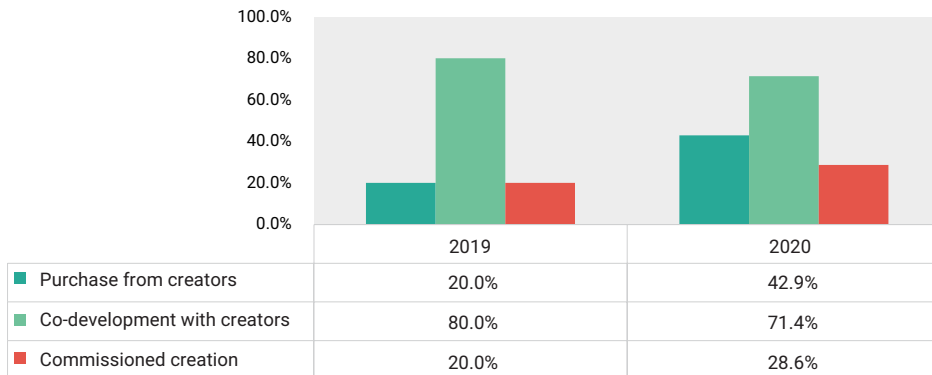


Figure 2-18. Models of externally acquired content for game development in Taiwan from 2019 to 2020

■ **Notes:** Multiple responses were allowed, so the added percentage was greater than 100.
 ■ **Source:** Organized by this survey study.

2.12. License acquisition by Taiwan's gaming companies

In terms of license acquisition by Taiwan's gaming companies, the percentage of those that purchased licenses in 2020 was 46.9%, an increase of 12.6 percentage points from 2019.

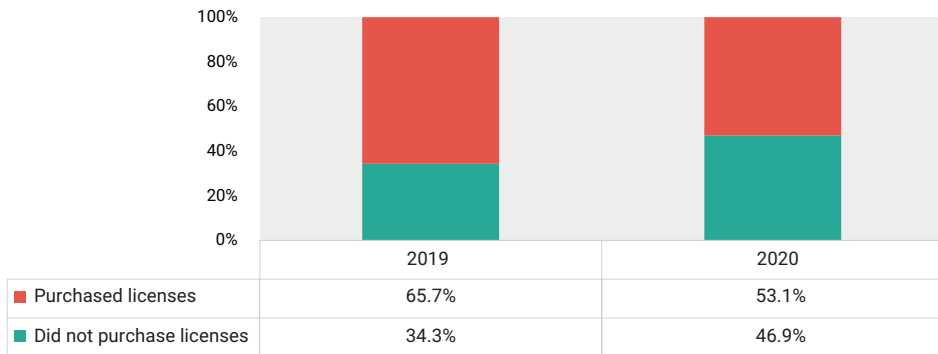


Figure 2-19. Overview of license acquisition by Taiwan's gaming companies from 2019 to 2020

■ **Source:** Organized by this survey study.

As for the regions where licenses were purchased from, domestic licenses accounted for 42.1% of licenses purchased in 2020, up significantly from 2019 (17.4%), followed by Japan and Mainland China, which accounted for 39.5% each, and South Korea, which accounted for 34.2%.

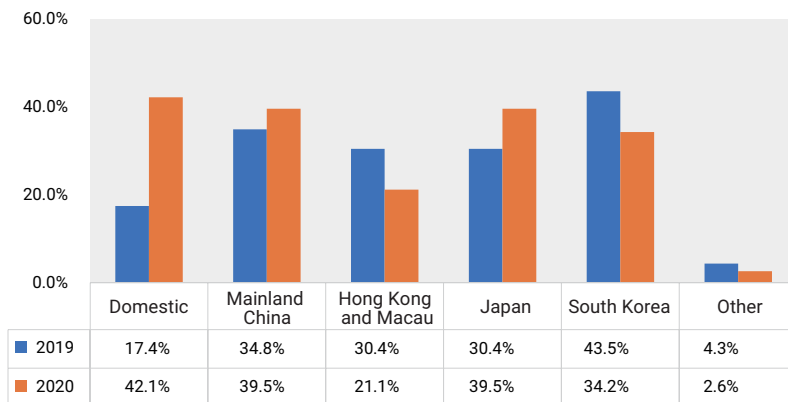


Figure 2-20. License acquisition by Taiwan's gaming companies from 2019 to 2020 by percentage of source region

■ **Notes:** Multiple responses were allowed, so the added percentage was greater than 100.
 ■ **Source:** Organized by this survey study.

License acquisition by Taiwan’s gaming companies was predominantly game licenses in both years, accounting for 87% in 2019 and 73.7% in 2020. The rest of the licensed content in 2020 each accounted for less than 20%, including novels (15.8%), manga and anime (10.5%), and original IPs (7.9%). Other licensed content accounted for 5.3%, which included character portrait rights, glove puppetry, etc.

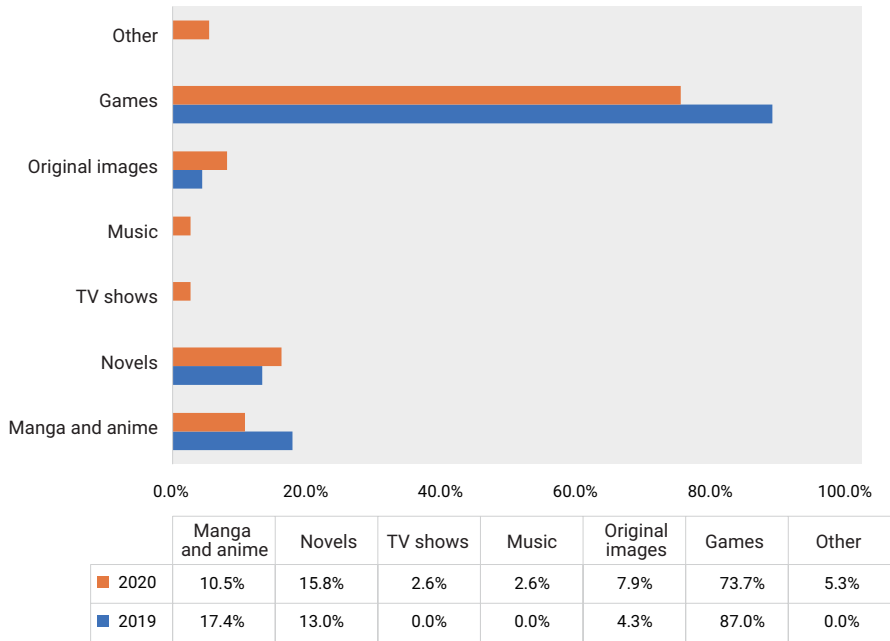


Figure 2-21. License acquisition by Taiwan’s gaming companies from 2019 to 2020 by percentage of content type

■ **Notes:**

1. Multiple responses were allowed, so the added percentage was greater than 100.
2. Other content included character portrait rights, Budaixi (glove puppetry), etc.

■ **Source:** Organized by this survey study.

In 2020, the forms of licenses purchased by the industry were mainly marketing licenses, accounting for 71.1%, followed by development licenses (28.9%), licenses for adaptations (21.1%), and licenses for derivative works (5.3%).

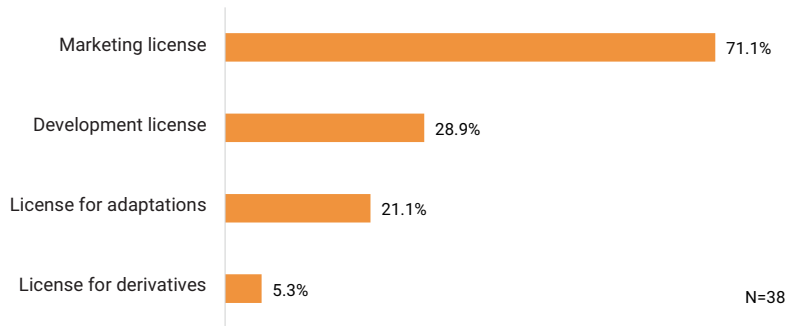


Figure 2-22. Forms of licenses purchased by Taiwan's gaming companies in 2020

- **Notes:** Multiple responses were allowed, so the added percentage was greater than 100.
- **Source:** Organized by this survey study.

2.13. License sales by Taiwan's gaming companies

The percentage of companies that sold game licenses in 2020 was 45.7%, an increase of 17.3 percentage points from 2019.

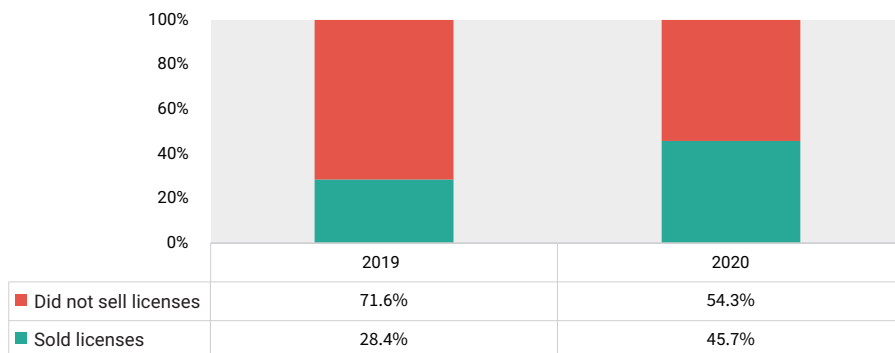


Figure 2-23. Overview of license sales by Taiwan's gaming companies from 2019 to 2020

- **Source:** Organized by this survey study.

As for the regions where licenses were sold to, domestic sales made up the majority of license sales in both years, accounting for 57.9% in 2019 and 48.6% in 2020. License sales to Mainland China were the second highest in 2019 (47.4%), while Japan was the second highest in 2020 (37.8%). Other regions include Europe, America, and Southeast Asia.

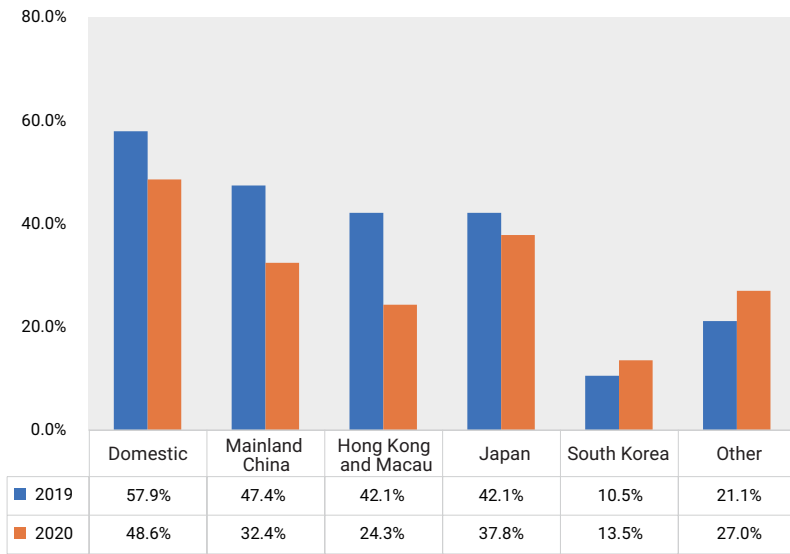


Figure 2-24. License sales by Taiwan's gaming companies from 2019 to 2020 by percentage of sales region

- **Notes:** Multiple responses were allowed, so the added percentage was greater than 100.
- **Source:** Organized by this survey study.

Licenses sold by Taiwan’s gaming companies were predominantly game licenses, accounting for 89.5% in 2019 and 86.5% in 2020. The rest of the content licensed in 2020 accounted for less than 15% each, including novels (13.5%), television shows (10.8), and films (8.1%).

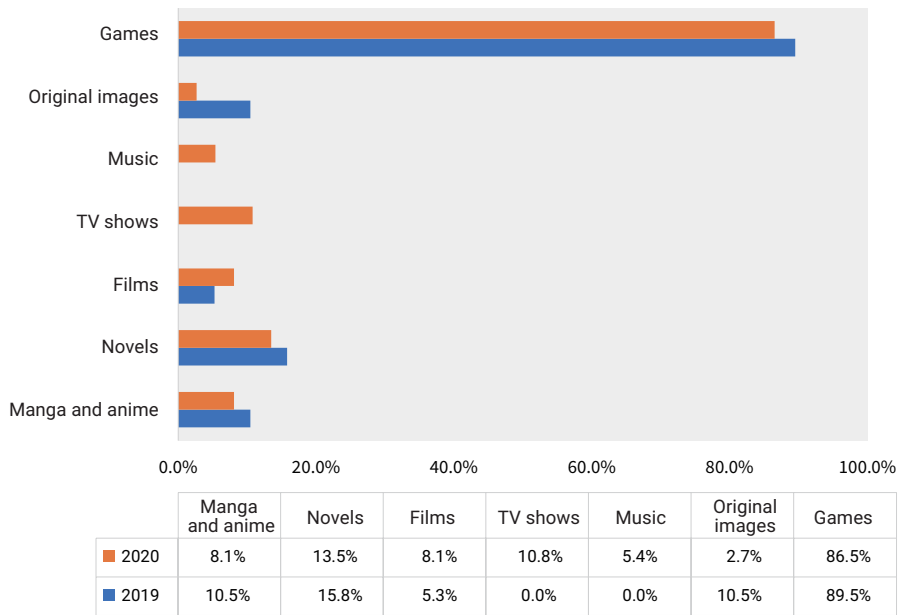


Figure 2-25. License sales by Taiwan’s gaming companies from 2019 to 2020 by percentage of content type

■ **Notes:**

1. Multiple responses were allowed, so the added percentage was greater than 100.
2. Other content included character portrait rights, glove puppetry, etc.

■ **Source:** Organized by this survey study.

In 2020, the forms of licenses sold by the industry were mainly marketing licenses, accounting for 81.1%, followed by licenses for derivative works (16.2%), licenses for adaptations (13.5%), and development licenses (10.8%).

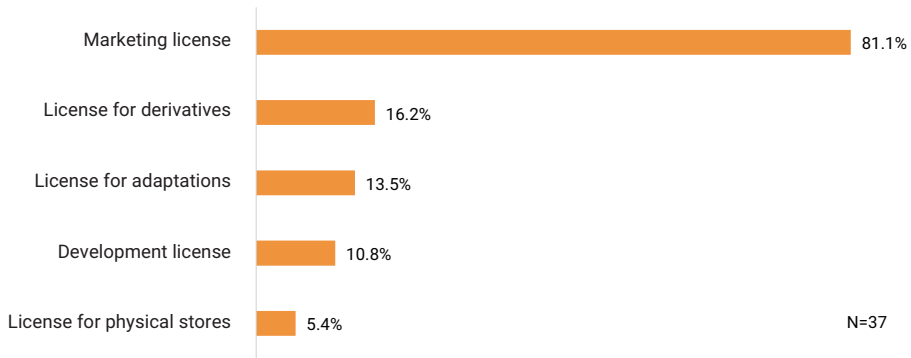


Figure 2-26. Forms of licenses sold by Taiwan's gaming companies in 2020

- **Notes:** Multiple responses were allowed, so the added percentage was greater than 100.
- **Source:** Organized by this survey study.

2.14. Domestic and foreign revenues of Taiwan's gaming industry

Revenue made domestically (accounting for 52.1% of the overall revenue) was relatively higher than revenue made overseas.

Table 2-1. Domestic and foreign revenues of Taiwan's gaming products in 2020

Item	Domestic ratio	Foreign ratio
Overall revenue	52.1%	47.9%

- **Source:** Organized by this survey study.

2.15. Foreign market of Taiwan's gaming industry

Among the 94 valid respondents (companies that provided valid responses to the survey), those with foreign revenues accounted for 70.2%, while those without foreign revenues accounted for 29.8%.

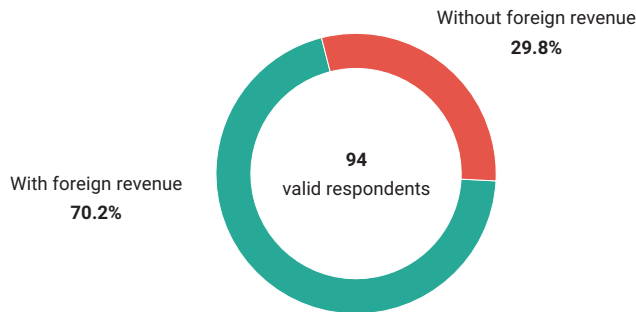


Figure 2-27. Overview of foreign market of Taiwan's gaming industry in 2020

■ **Source:** Organized by this survey study.

Foreign revenue came predominantly from Japan, which accounted for 51.5% of the total, followed by Hong Kong and Macau (50%) and North America (39.4%).

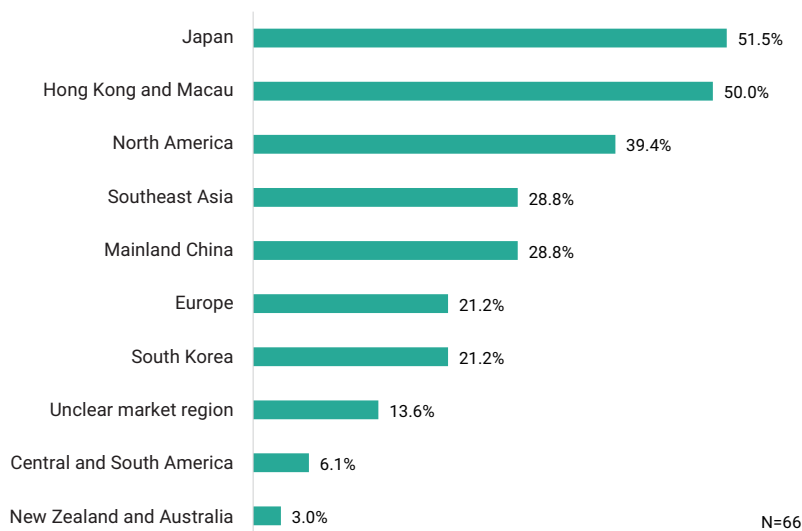


Figure 2-28. Foreign market of Taiwan's gaming industry in 2020 by regional distribution

■ **Notes:** Multiple responses were allowed, so the added percentage was greater than 100.
 ■ **Source:** Organized by this survey study.

2.16. Production (management) and outsourcing of Taiwan’s gaming industry

Game testing accounted for the biggest share (87.9%) of commercial operations undertaken by Taiwan’s overall gaming sector, followed by animation art and game marketing, which accounted for 83.5% each. For game developers, the highest proportion (96.8%) was devoted to animation art, followed by game testing (90.3%) and game operations (69.4%). For game operation and agency companies, the biggest share (96.6%) was dedicated to game marketing, followed by game operation (89.7%) and storyboard and script (31%).

Table 2-2. Commercial operations of Taiwan’s gaming industry in 2020 by type of main business

Business	Overall		Game development		Game operation/agency/ distribution	
	Number of companies	Percentage	Number of companies	Percentage	Number of companies	Percentage
Total	91	100	62	100.0	29	100.0
Storyboard and script	64	70.3	55	88.7	9	31.0
Game engine	67	73.6	55	88.7	12	41.4
Animation art	76	83.5	60	96.8	16	55.2
Sound effects and music	65	71.4	55	88.7	10	34.5
Game testing	80	87.9	56	90.3	24	82.8
Game operation	69	75.8	43	69.4	26	89.7
Customer service	69	75.8	44	71.0	25	86.2
Game marketing	76	83.5	48	77.4	28	96.6

■ **Source:** Organized by this survey study.

After excluding unrelated enterprises, the percentage of production (management) that was fully in-house was higher than the fully outsourced production (management) for various commercial operations. Most game engines were fully produced in-house (80.6%), while sound effects and music were the least in-house produced business items. Moreover, sound effects and music were also the most fully outsourced items, accounting for 23.1% of the total.

Table 2-3. Overview of in-house and outsourced production (management) by Taiwan's gaming companies in 2020

Business	Fully in-house produced (managed)	Mostly in-house produced (managed)	Half in-house and half outsourced	Mostly outsourced	Fully outsourced
Storyboard and script	78.1%	18.8%	3.1%	0.0%	0.0%
Game engine	80.6%	11.9%	6.0%	0.0%	1.5%
Animation art	52.6%	23.7%	9.2%	10.5%	3.9%
Sound effects and music	35.4%	16.9%	3.1%	21.5%	23.1%
Game testing	79.7%	11.4%	7.6%	1.3%	1.3%
Game operation	79.7%	11.6%	5.8%	0.0%	2.9%
Customer service	75.4%	8.7%	2.9%	2.9%	10.1%
Game marketing	64.0%	21.3%	6.7%	4.0%	5.3%

■ **Source:** Organized by this survey study.

2.17. Application of emerging digital technology in Taiwan’s gaming industry

78.9% of Taiwan’s gaming companies utilized emerging digital technologies, while 21.1% did not.

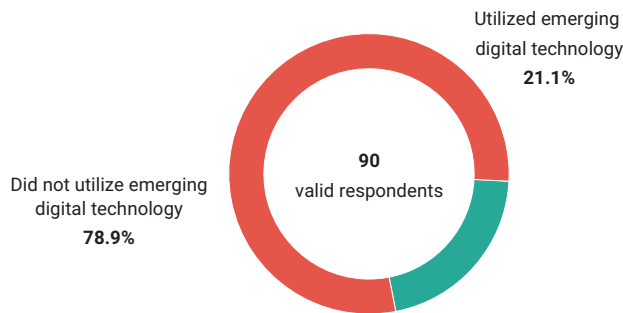


Figure 2-29. Overview of emerging digital technology applications in Taiwan’s gaming industry in 2020

■ **Source:** Organized by this survey study.

The gaming industry utilized a variety of emerging digital technologies, including augmented reality (AR), virtual reality (VR), cloud computing technology, next-generation game engine development, etc.

Table 2-4. Application of emerging digital technology by Taiwan’s gaming companies in 2020

Emerging digital technology	Number of companies adopting the technology
Augmented reality (AR)	9
Virtual reality (VR)	9
Cloud computing technology	4
Next-generation game engine development	3
Extended reality (XR)	2
Artificial intelligence (AI)	2
Mixed reality (MR)	1
Location tracking	1
3D Secure 2.0 Authentication	1
Skeletal animation rigging technology	1
Real-time data storage technology	1
High-speed multi-layer scrolling illustration engine	1
Digital board games that use printed cards (hybrid board games)	1
Facial recognition	1
Motion capture	1

■ **Source:** Organized by this survey study.

2.18. Innovative business models in Taiwan's gaming industry

8.9% of Taiwan's gaming companies utilized innovative business models, while 91.1% did not.

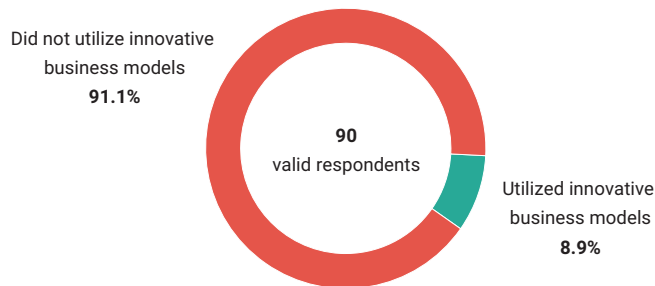


Figure 2-30. Overview of innovative business models in Taiwan's gaming industry in 2020

■ **Source:** Organized by this survey.

Innovative business strategies included exploration of niche markets, reactivating and licensing classic IPs, block chains, online and offline fair integration, cash flow integration services, etc.

Table 2-5. Innovative business models applied by Taiwan's gaming companies in 2020

Innovative business model	Number of companies adopting the business model
Reactivation and remake of classic IPs	1
Licensing classic IPs for overseas collaboration and profit sharing	1
Managing niche markets (such as adult games)	1
Venture into cash flow (payment) integration services	1
Development of advertising platforms by employing AI and big data analytics to improve advertising efficiency	1
Blockchain	1
Vtuber	1
Integration of online and physical stores, events, or fairs	1
Omnichannel	1
Motion sensing interactive exhibitions	1

■ **Source:** Organized by this survey study.

3 Esports Industry

3.1. Industry overview

The statistical population of this year’s survey on the esports industry consisted of 25 companies, with an estimated 733 employees, a total income of approximately NT\$300 million and a total expenditure of approximately NT\$300 million.

Number of companies	25	Revenue	NT\$ 300 billion
Number of employees	733	Expenditure	NT\$ 300 billion

Figure 2-31. Overview of Taiwan’s esports industry in 2020

■ **Source:** Organized by this survey study.

3.2. Overview of the subindustries in Taiwan’s esports industry

The subindustries are divided into two categories: esports events and esports teams. The total number of esports team companies (14 companies) was higher than the total number of companies in esports events. However, the esports events sector had a higher number of total employees (approximately 533 people), total revenue (approximately NT\$253 million), and total expenditure (NT\$207 million).

Esports Events		Esports Teams
11	Total number of companies	14
Approx. 533	Total number of employees	Approx. 200
Approx. NT\$253 million	Total revenue	Approx. NT\$71 million
Approx. NT\$207 million	Total expenditure	Approx. NT\$127 million
Approx. NT\$23 million	Average revenue	Approx. NT\$5 million
Approx. NT\$19 million	Average expenditure	Approx. NT\$9 million

Figure 2-32. Overview of the subindustries in Taiwan’s esports industry in 2020

■ **Notes:** Companies were divided into two categories depending on their main operation: esports events and esports teams.

■ **Source:** Organized by this survey study.

3.3. Overview of the services provided by Taiwan’s esports industry

In terms of services provided by the esports industry, esports teams and esports events accounted for the highest percentages (56% each). If other services were not considered, esports venues accounted for the least, with just 4% of all the services.

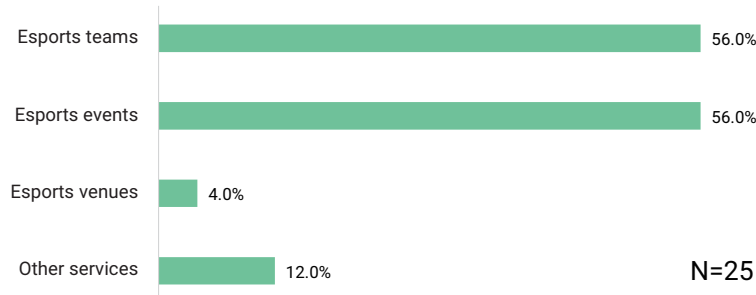


Figure 2-33. Percentage of the services provided by Taiwan’s esports industry in 2020

■ **Notes:**

1. Multiple responses were allowed, so the added percentage was greater than 100.
2. Other services included esports education and training.

■ **Source:** Organized by this survey study.

3.4. Capital size of Taiwan’s esports industry

According to the capital size, 64% of the esports industry businesses had a capital of less than NT\$5 million, followed by those with a capital of NT\$5 million to NT\$50 million (16%) and those with a capital of NT\$50 million to less than NT\$500 million (16%). Companies with a capital of more than NT\$500 million accounted for only 4% of the total.

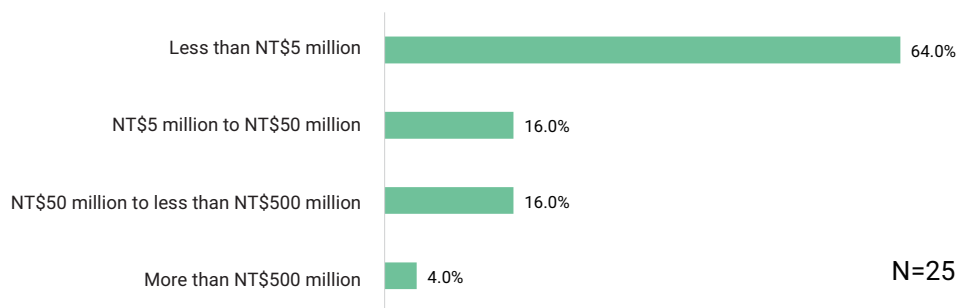


Figure 2-34. Capital size of Taiwan’s esports industry in 2020

■ **Source:** Organized by this survey study.

3.5. Regional distribution of Taiwan's esports industry

Companies in the esports industry were mostly concentrated in northern Taiwan, accounting for 92% of the total. Companies in the central region accounted for 8%, while the southern region had no esports companies.



Figure 2-35. Regional distribution of Taiwan's esports industry in 2020

- **Notes:** The northern region included Taipei City, New Taipei City, Keelung City, Taoyuan City, Hsinchu City, Hsinchu County, and Yilan County; the central region included Miaoli County, Taichung City, Changhua County, Nantou County, and Yunlin County; and the southern region included Chiayi County, Chiayi County City, Tainan City, Kaohsiung City, and Pingtung County.
- **Source:** Organized by this survey study.

3.6. Number of employees in Taiwan's esports industry

According to the number of employees in the esports industry, 84% of the companies were SMEs with fewer than 50 employees. Among them, those with 6 to 15 employees accounted for the largest number of companies, at 44%, followed by 36% of those with 16 to 50 employees. Companies with 101 or more employees accounted for only 4% of the total.

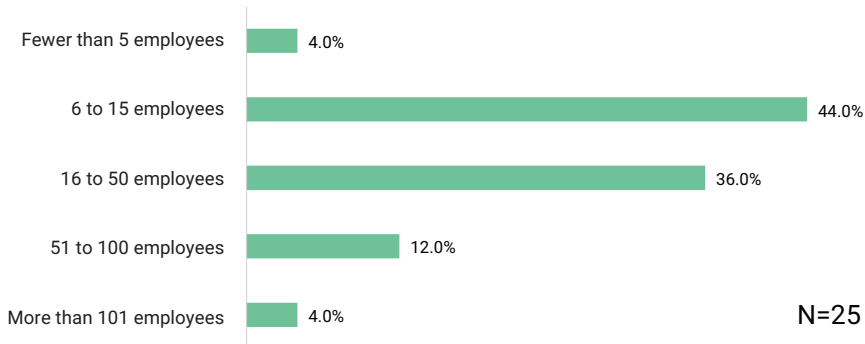


Figure 2-36. Number of employees in Taiwan's esports industry in 2020

- **Source:** Organized by this survey study.

3.7. Revenue structure of Taiwan's esports industry

Taiwan's esports business generated the majority of its revenue from livestreaming, accounting for 22.7% of overall revenue. Without accounting for other revenues, revenue from peripheral merchandise and ticketing accounted for 13.1%, followed by player earnings (12.8%). Additionally, revenues were generated through esports education, player training, media licensing, subsidies to game distribution developers, and venue renting.

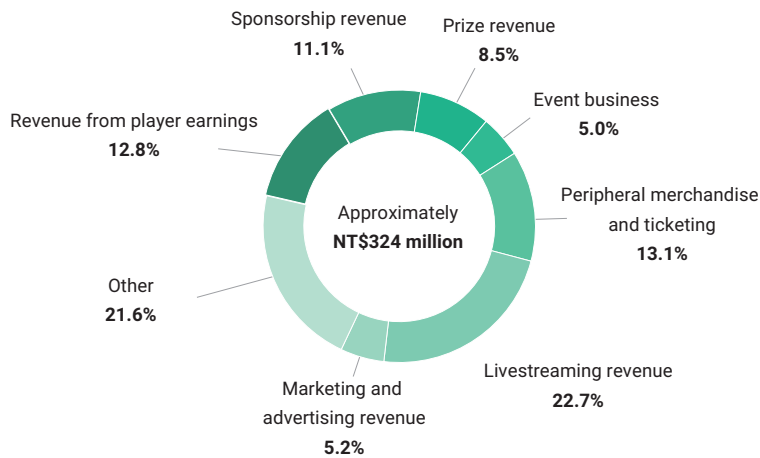


Figure 2-37. Revenue structure of Taiwan's esports industry in 2020

■ Source: Organized by this survey study.

3.8. Domestic and foreign revenues of Taiwan's esports industry

Revenue made domestically (accounting for 75.8% of the overall revenue) was relatively higher than revenue made overseas (24.2%).

Table 2-6. Domestic and foreign revenues of Taiwan's esports industry in 2020

Item	Domestic ratio	Foreign ratio
Overall revenue	75.8%	24.2%

■ Source: Organized by this survey study.

3.9. Expenditure structure of Taiwan's esports industry

In terms of Taiwan's esports industry expenditures, player salaries and benefits accounted for the highest percentage (29.8%), followed by support personnel salaries and benefits (22.6%), and miscellaneous administrative expenses (22.3%).

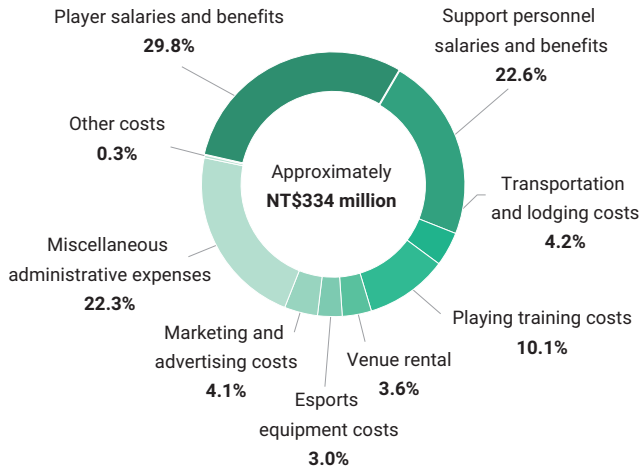


Figure 2-38. Expenditure structure of Taiwan's esports industry in 2020

■ **Source:** Organized by this survey study.

3.10. Overview of the main regions of business activities for Taiwan's esports industry

Due to the pandemic, Taiwan's esports industry's primary region of business activity this year was Taiwan, which accounted for 100% of all regions. The remaining regions each accounted for less than 20%, with Southeast Asia, Hong Kong and Macau, South Korea accounting for 17.6%, 17.6%, and 11.8%, respectively.

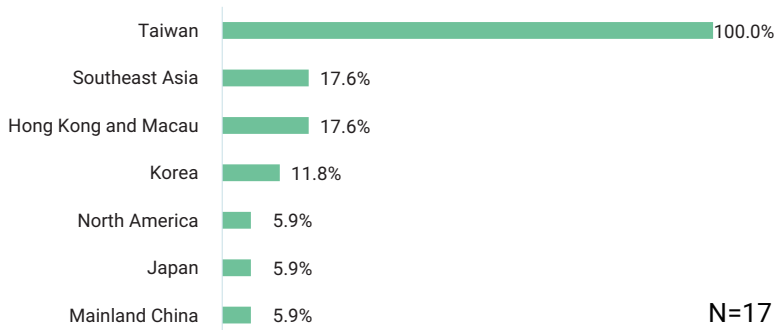
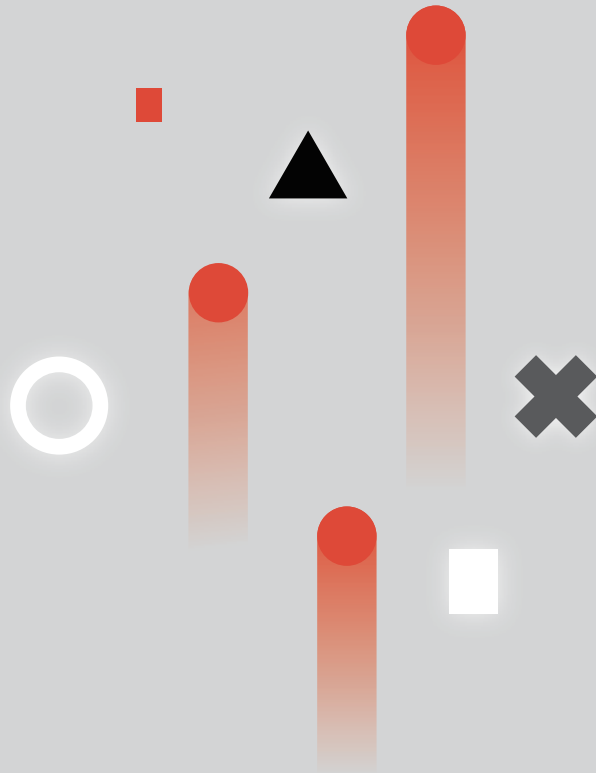


Figure 2-39. Regions of business activities for Taiwan's esports industry in 2020

■ **Notes:** Multiple responses were allowed, so the added percentage was greater than 100.

■ **Source:** Organized by this survey study.

III FORECAST



1 Digital Development Trends of Taiwan's Gaming and Esports Industries

1.1. Mobile games have gone mainstream, affecting game development and the evolution of esports tournaments

Mobile gaming has become the largest shareholder of the gaming market in terms of gaming devices since 2016. More than 70% of consumers born after 2000 use mobile phones for gaming (Newzoo, 2018, 2021a, and 2021c). Additionally, the number of spectators for mobile game esports tournaments has begun to surpass that of PC games in 2021. For instance, esports tournaments for a variety of mobile games, such as Garena's Free Fire, MOONTON's Mobile Legends: Bang Bang, and Tencent's PUBG Mobile, have all received incredible ratings.

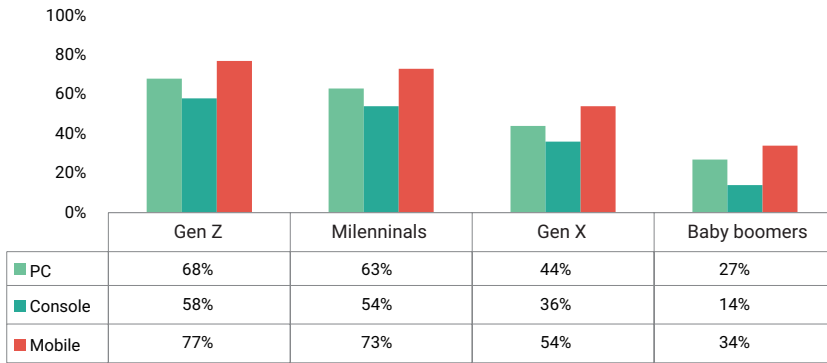


Figure 3-1. Usage of gaming devices across generations

■ **Source:** Newzoo (2021).

According to this survey's findings, the gaming and esports industries also agree that many domestic middle and high school students predominantly play games on their mobile phones rather than on computers or game consoles. Not only will this result in the porting of competitive PC games to mobile phones, but it will also have an impact on the future of esports tournaments as mobile gaming grows more mainstream.

1.2. Cross-platform mobile games simplify game publishing and replace some of the publisher's commercial functions

As cross-platform mobile games flourish and advertising is made easy, many original developers of mobile games have been able to distribute games globally without local publishers. This may eventually supplant certain commercial functions performed by authorized publishers. In light of these developments, a number of Japanese and Korean game developers have begun to boost their authorized publishing fees or have opted for self-publishing entirely. For example, Gravity withdrew management rights for Gameflier's massively multiplayer online game *New Ragnarok Online* in 2016; and despite Gamania's efforts to secure the agency rights for *Lineage 2M* in Taiwan, Hong Kong, and Macau, NCsoft ultimately chose to operate the game through its Taiwanese subsidiary, NC Taiwan.

According to this survey investigation, many industry participants believe that some Taiwanese publishers have steadily adjusted their roles to assist with local marketing and media placement. This will make it more difficult for domestic agency companies to retain operations over the next two to three years. Numerous agency businesses bear significant costs as a result of the inability to get local agency rights, diminishing profitability, and being charged up to 60% of their sales and taxes by both mobile platforms.

However, under the same conditions, the difficulty of distributing and operating foreign versions of games developed by domestic developers is also reduced. Taking X-Legend Entertainment as an example, the company has successfully transitioned into a mobile game developer and operator since 2017. Due to the lessened difficulty of game operation across nations, the firm has self-published the majority of its foreign versions of mobile games.

1.3. As metaverse evolves, it is critical to have a constant awareness of the accompanying risks and domestic development limitations

As the metaverse phenomenon grows in popularity, numerous global technological behemoths have begun to plan and deploy plans in response. Corporations such as Meta (Facebook), Microsoft, Tencent, and NVIDIA view the metaverse as the core component of the next wave of the information revolution.

Before promoting the development of the metaverse domestically, Taiwan should have a clear understanding of its potential risks. It is critical to identify and resolve issues in all facets of each sector from the start. To begin with, technological challenges such as information security, multi-person online interaction, immersive experience, and personal information synchronization should be solved. Second, order maintenance must be discussed, which involves the metaverse's financial and legal features, as well as how illegal metaverse disputes are resolved in the real world. Thirdly, the groundwork for establishing a user and social community must be laid. Taiwanese consumers primarily use foreign-owned social media services such as Line, YouTube, Facebook, and Instagram. This means that the majority of personal data associated with a virtual world character ID may come from the aforementioned companies. As a result, if domestic firms wish to pursue developing the metaverse market, they may need to rely on information provided by these foreign firms. Finally, the metaverse is built on the expanded culture, worldview, and narratives of contemporary social communities, as well as huge volumes of movies, mangas, animations, gaming IPs, and other content materials. As a result, given the

immaturity of related technologies, platforms, specs, and content in Taiwan, the current domestic gaming industry is more likely to rely on peripheral services or content as an entrance point to the market.

1.4. Augmented reality, virtual reality, and cloud computing applications are the primary emerging digital technologies for domestic industry players

In recent years, internationally renowned corporations such as Google, Apple, Facebook, Alibaba, and Samsung have all invested in the application development of virtual reality (VR), augmented reality (AR), and even mixed reality (MR). The “Digital Nation and Innovative Economic Development Program” devised by the Taiwanese government also promotes and guides industry players to invest in the development of related fields.

According to this survey’s findings, the use of AR, VR, and cloud computing technologies accounts for the highest percentage of digital technology used by domestic industry players. Utilization of emerging digital technologies helps game players with their immersive experiences and in-game interaction.

Examples of this include the virtual reality game series *Unearthing Mars* (published by Winking Entertainment) and Pumpkin Studio, a startup focused on VR content production and XR system integration. Another example is Toii, an independent gaming firm that integrates augmented reality technology with the GPS function of smartphones, allowing for the utilization of real-world locations to drive game progress and enhance user engagement experiences.

As for listed companies, InterServ International released *Kung Fu All-Star* VR in 2020 on Steam, while Soft-World’s research and development efforts will focus on game engines that support the next-generation full 3D mobile game development process. Furthermore, Soft-World intends to incorporate somatosensory technologies such as AR/VR/MR/XR, as well as artificial intelligence, blockchain, big data analytics, VTuber (virtual YouTuber), and cloud computing technologies into its development process. They hope to increase efficiency and reduce costs across a range of tools and processes, such as designing related art, planning, marketing, and integrating game operations. By combining a new generation of applications that integrate the structure of resource management, Soft-World aims to mass-produce a variety of cross-platform game products on the same architectural foundation while maintaining cost control.

2 Development Trend of IP Licensing in Taiwan's Gaming and Esports Industries

2.1. In a highly competitive market environment, consumers are more likely to favor IP adaptations with a preexisting customer base

Mobile gaming has become the largest shareholder of the gaming market in terThe rise of gaming platforms makes game distribution easier and the market more global. Since a large number of new games are added to PC and mobile gaming platforms on a daily basis, the general rapid turnover of products causes the difference between games to decrease. This may be a contributing factor to the increasing importance of classic IPs in recent years. Games based on these classic IPs can compete in a fast-paced market due to the nostalgic effect they have on players.

In other words, if an IP already has a client base, it can attract additional audiences who are already aware of it or entice other potential audiences to embrace it. The audience characteristics can be used as a strategic basis for game development, marketing, and operations in the gaming industry. As a result, a significant number of domestic industry players now agree that IP licensing and cross-sector utilization are the gaming industry's future. A recent notable example is the development of the stand-alone game *The Legend of Three Kingdoms VIII* by the publicly listed company Userjoy Technology and its use of IP licensing to reactivate classic IPs. Additionally, the business established a production committee to oversee the development of manga and anime adaptations of its legendary IP, *Fantasia Sango*. Furthermore, it intends to develop a video game adaptation of the popular Japanese anime, *Seven Mortal Sins*. Another example is Chinese gamer International's continued recreation and adaptation of classic video game IPs, such as *Tenchi wo Kurau M*, *Huang Yi Qun Xian Chuan M*, *Xun Qin Ji M*, and *Tian Zi Chuan Qi M*. Still another example is the X-Legend Entertainment self-produced online game *Laplace: Sons of God*, which was authorized for the development of the mobile MMORPG *Kingdom of the Wind* overseas. After development, the game's operations were transferred to the domestic team, and the game produced an exceptional revenue performance in 2019.

2.2. Raising opportunities for cross-content licensing of game products through active IP promotion strategies, market analysis, and overseas market exposure

Licensing of intellectual property and cross-sector collaborations are widely recognized as the industry's growth trends. However, Taiwan faces fundamental limits such as limited local market demand, making it difficult for cultural sectors (such as comics, film and television, novels, and so on) that easily produce IPs to have an advantage in the global market.

If an IP is exclusively appealing to the domestic market, the industry may be less inclined to invest in its adaptations and production. As a result, if a work has already received some publicity, allowing industry players to see its potential value, there is a greater probability that it will be licensed across other content types.

Domestic gaming firms continue to prioritize game porting, reactivation, and revision when it comes to content licensing. They continue to port competitive PC games to mobile devices and manage game IPs from there. In terms of cross-content licensing and adaptations, many industry players hope that gaming IPs can gain exposure across a broader range of platforms, industries, and overseas markets. Active PR strategies and market analysis can help increase the IP's popularity and general efficacy, hence raising the likelihood of licensing across other content types.

2.3. Video games are more subcultural in nature. Government subsidies play a critical role in fostering cross-sector collaboration for the gaming industry

Since game content is more subcultural in nature, a game's popularity and fanbase are still not particularly advantageous in comparison to mainstream cultural elements. Due to the fact that video games are relatively uncharted territory for television and motion picture companies, and due to the risk-averse operational mindset, games are less likely to be the first choice for source adaptations in other content sectors.

Under the premise of marketability, activation and reuse (or porting to other platforms) of classic IPs such as *The Legend of Sword and Fairy*, *Xuan-Yuan Sword*, and *The Legend of Three Kingdoms* are more prominent, uncommon, and valuable situations. In addition, many industry respondents noted through consultations or questionnaire surveys that government subsidies remain a significant force for cross-sector partnerships of other intellectual property.

2.4. Adaptations of iconic IPs come with a pre-existing following and client base. If marketed precisely, they can have more clout in a highly competitive global market

Due to the liberal nature of Taiwan's gaming market, domestic video game players can easily access classic game IPs from around the world. However, without further marketing effort, it may be difficult to attract players simply by making games based on classic IPs in a competitive market. Although domestic adaptations of classic IPs already enjoy a certain level of popularity and a certain customer base, if these adaptations are to maintain or expand their domestic and international success, ongoing management of content IPs is critical. IPs can exert greater influence by strengthening the content of current IPs and making them more distinctive, while also increasing their overall marketability through precision marketing tactics.

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