TAICCA

TAIWAN CREATIVE CONTENT AGENCY

文化內容策進院

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Taiwan Cultural Content Industries Survey Report

Games • E-sports Industry

TAICCA 文化內容策進院 TAIWAN CREATIVE CONTENT AGENCY

IV

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CONTENTS

00 Introduction

01 SPOTLIGHT

02 OVERVIEW

03 FORECAST

04 References

List of Figures

List of Tables

Introduction

00

1. Scope of the Survey

The purpose of the survey was to accurately reflect the current state of Taiwan's cultural content industry so that the government and businesses can keep track of the latest development trends and formulate industry development goals and implementation strategies accordingly. The Taiwan Creative Content Agency (TAICCA) consolidated the Ministry of Culture's industry survey projects into the Cultural Content Industry Survey Project in 2020. The industry surveys were divided into four separate volumes according to their industry relevance: the "Books, Magazines, Comics, and Original Graphics Industry," the "Motion Picture, Animation, and Broadcasting Industry," the "Popular Music Industry," and the "Games and E-sports Industry."

This volume is the fourth volume in the 2020 Cultural Content Industry Survey Project. The scope of the survey included the games and e-sports industry and specifically focused on market trend developments caused by emerging business models. The games industry is primarily composed of game development, game publishing, and game distribution as its primary subindustries. Its auxiliary industries include development tools, online services, and derived industries from e-sports, etc. The e-sports industry originated from the games industry and has itself led to the creation of other subindustries like the e-sports competition casting industry and the e-sports team logistics and management industry.

Since the sizes of game companies vary greatly, and companies in the industry undertake different business focuses such as development, publishing, and distribution, the scope of this survey included both game companies that are publicly traded and studios or companies that have produced hallmark indie games. This survey investigated parts of the e-sports industry that include streaming, competitions, related media, and team management, all of which are considered part of a multi-industry business structure. The scope of this survey therefore disregarded developers, service providers, and publishers associated with e-sports IPs from the e-sports industry category due to the main focus of their business being centered around the games industry.

This survey established a list of 117 games and e-sports industry entities by combining the list of the members of the Chinese Taipei Electronic Sports Association, the exhibitors of the Taipei Game Show, and other domestic companies registered under the tax codes 5820-11 Game Software Design and 6201-11 Game Software Publishing together. For interviews, we targeted general managers, deputy general managers, middle and senior management staff, or responsible persons in finance or public relations departments of each company as the main respondents.

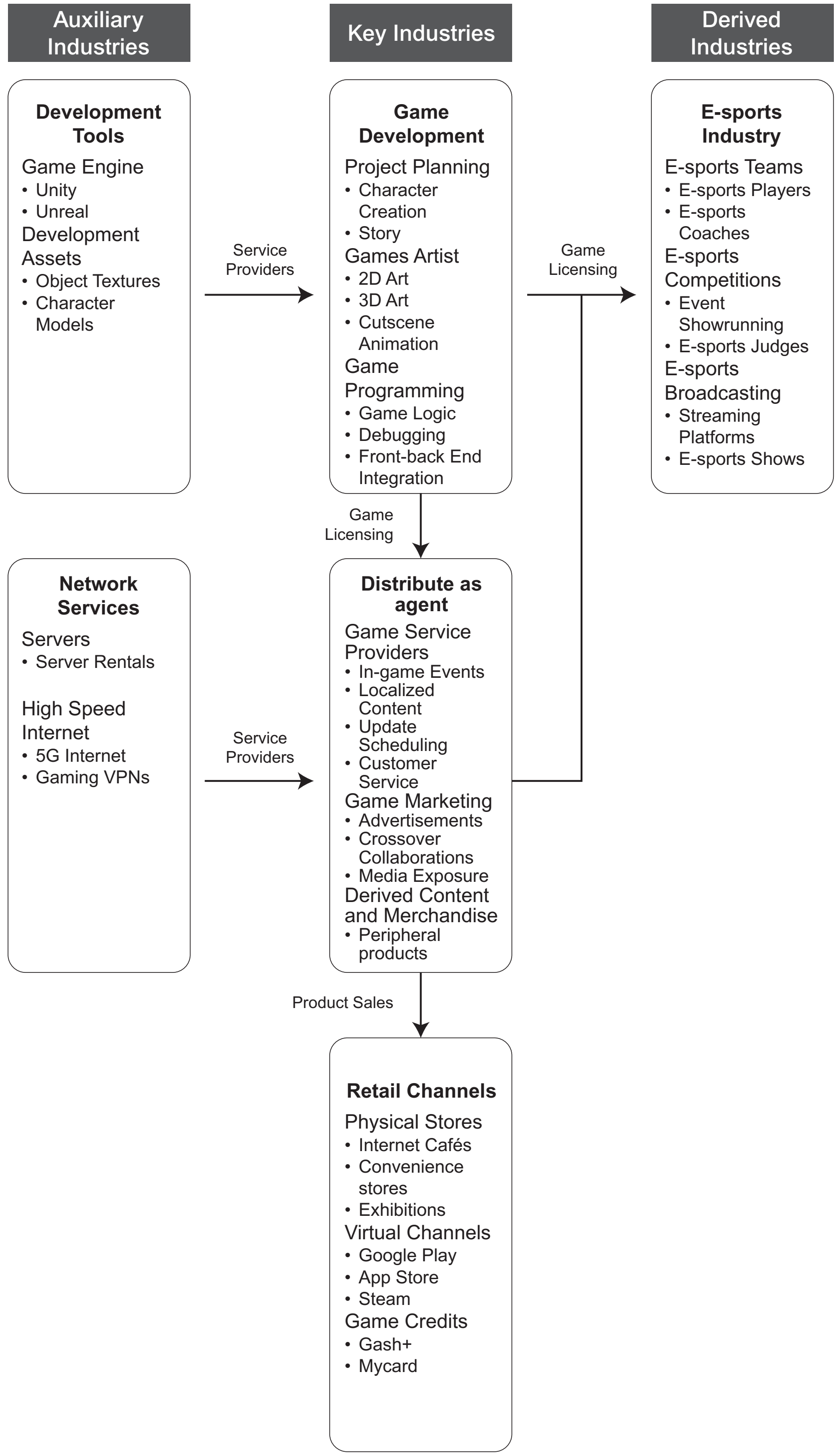


Figure 1. Scope of the games industry
Source: Compiled by this survey.

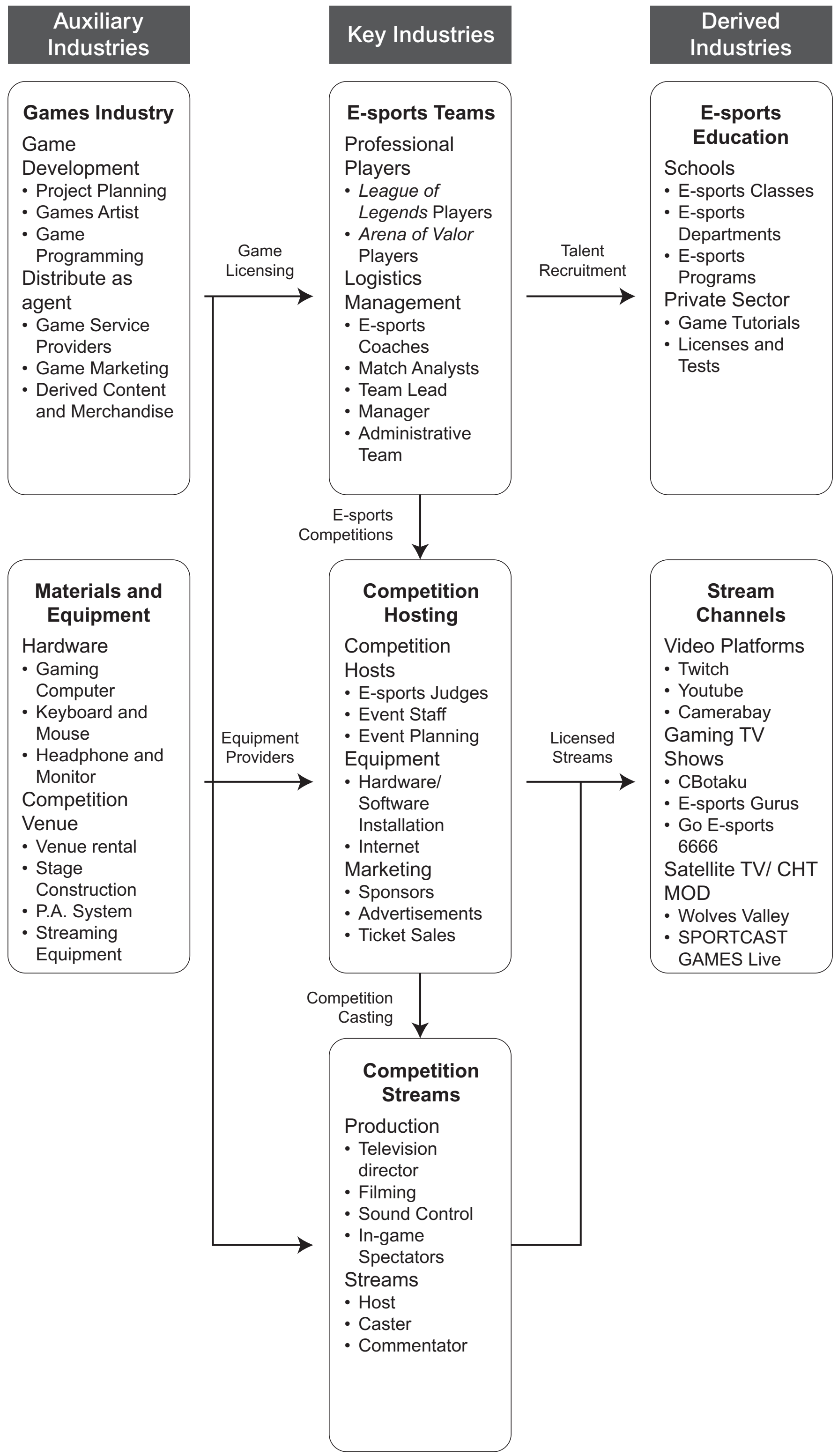


Figure 2. Scope of the e-sports industry
Source: Compiled by this survey.

2. Chapter Overview

This volume is divided into three chapters:

The first chapter covers the focuses of the games industry in Taiwan, presenting survey results with significant importance and relevant statistics of interest to the industry.

The second chapter presents a broad overview of the games industry in Taiwan, showing the results of this year's survey on the gaming and e-sports industries through a summary of the numbers of companies, employee makeup, profits, and revenue structures.

The third chapter covers the industry's future prospects, presenting the possible trends and future prospects of cross-industry collaboration, IP licensing, and digital development of related industries in Taiwan.

This is the first time that the games and e-sports industries have been joined together in a single survey and is the reason why no prior data exists for comparison. The survey for this year sought to capture the general state and trends of the games and e-sports industry in Taiwan, and to have the survey data serve as a baseline reference for future annual surveys of this industry. The core focuses of this survey were to investigate the actual scale of the games and e-sports industries, their income, business model, IP licensing trends, and digital development trends. This data may be used by relevant government agencies and industry players as a reference for subsequent policy development or understanding of industry development.

SPOTLIGHT

01

1. Overview of the Games Development Sector in Taiwan

The primary development of focus of games companies in Taiwan is mobile games. Nearly one-third of games and e-sports service providers are also mobile game developers.

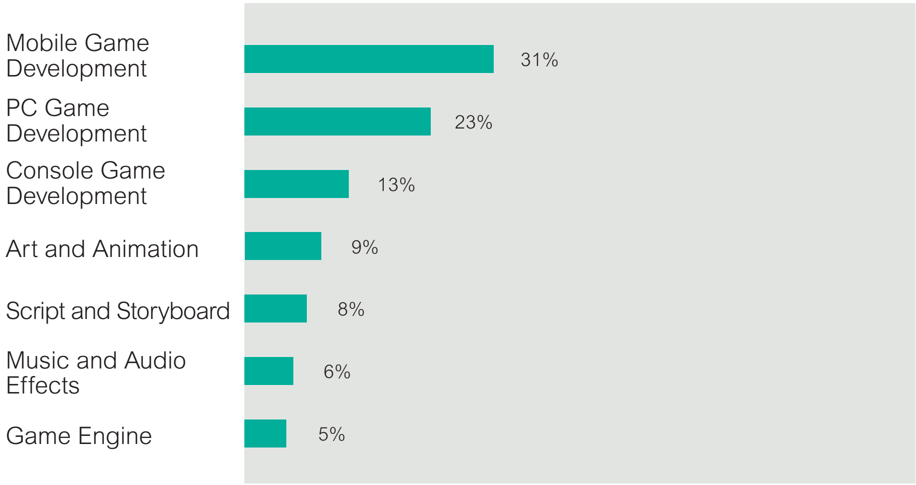


Figure 3. Number of game development and related service providers in Taiwan
Source: Compiled by this survey (n=117)

2. Overview of the Games Publishing Sector in Taiwan

Game service provision is one of the key business focuses of game publishers and distributors in Taiwan. Survey data suggests that 30% of companies in the games and e-sports industry are also game service providers.

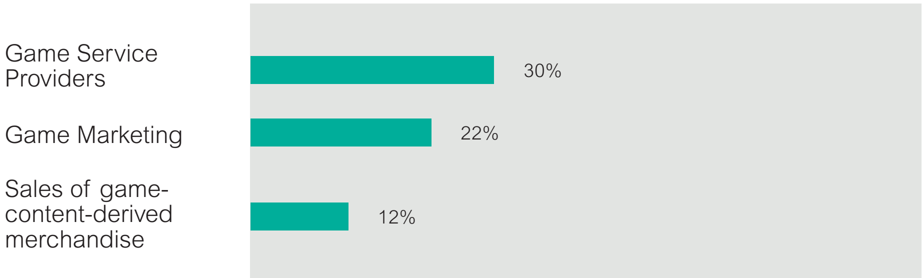


Figure 4. Number of game publishing and related service providers in Taiwan
Source: Compiled by this survey.

3. Overview of the Game Genres Developed in Taiwan

For both online games and single-machine games, RPGs remain the most popular genre of choice for most game developers in Taiwan, a phenomenon possibly related to the popularity of massively multiplayer online role-playing games (MMORPG) in Taiwan in previous years.

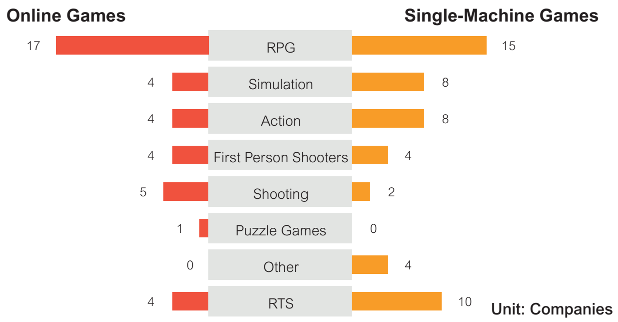


Figure 5. Game genres by developers in Taiwan
Source: Compiled by this survey.

4. Overview of the Game Genres Published in Taiwan

Online RPG games are the most popular genre of choice for publishing, demonstrating the popularity of RPGs among Taiwan consumers whether from a developer or a publisher's point of view.

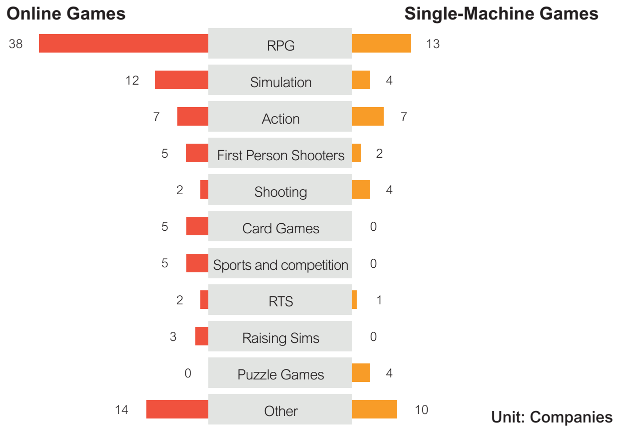


Figure 6. Game genres by publishers in Taiwan
Source: Estimated by this survey.

5. Overview of the Games Industry Expenditures in Taiwan in 2019

In 2019, the games industry in Taiwan spent about NT$32.5 billion, two-thirds of which were expenditures by game publishers and distributors. Among the expenditure items, the five areas of R&D, licensing, merchandising, marketing, and human resources turned out to be roughly equal to each other.

Game Development		Games Publishing and Distribution
46 Companies	Number of Companies	52 Companies
Approximately NT$11.5 billion	Operating Expenditures	Approximately NT$21 billion
Approximately NT$250 million	Average Expenditures	Approximately NT$400 million

The Taiwan games industry had approximate total expenditures of NT$32.5 billion in 2019.

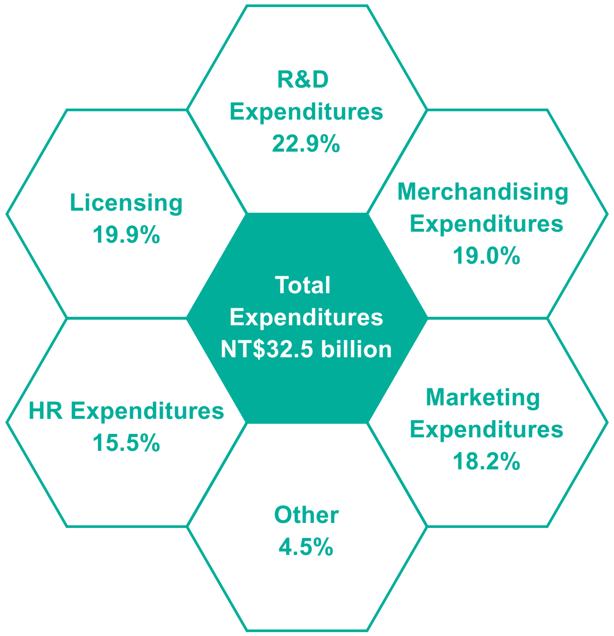


Figure 7. Overview of games industry expenditures in Taiwan in 2019
Source: Summarized from the survey questionnaire.

6. Overview of the PC Game Development Expenditures in Taiwan

The development cost of PC games varied greatly between large game developers with a capital of over NT$50 million and small to medium-sized game developers with a capital of under NT$50 million, exhibiting an average five-fold difference in development costs for a single game.

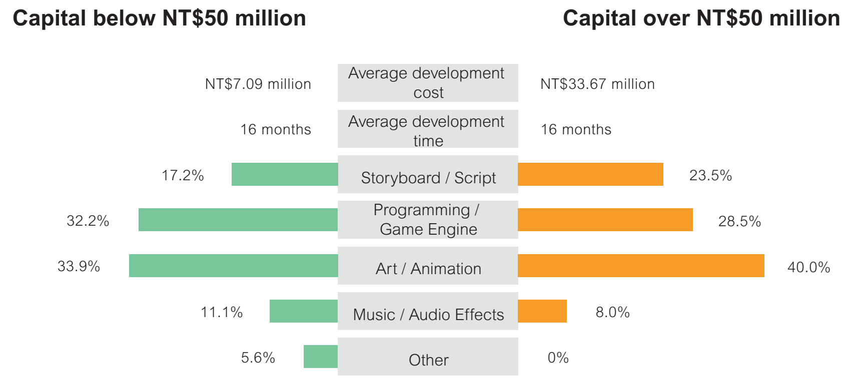


Figure 8. Cost of PC game development in Taiwan
Source: Summarized from the survey questionnaire.

7. Overview of the Mobile Game Development Expenditures in Taiwan

Compared to PC games, a higher amount of money went into the development of mobile games, with this difference becoming even more pronounced when comparing large companies against small to medium-sized developers.

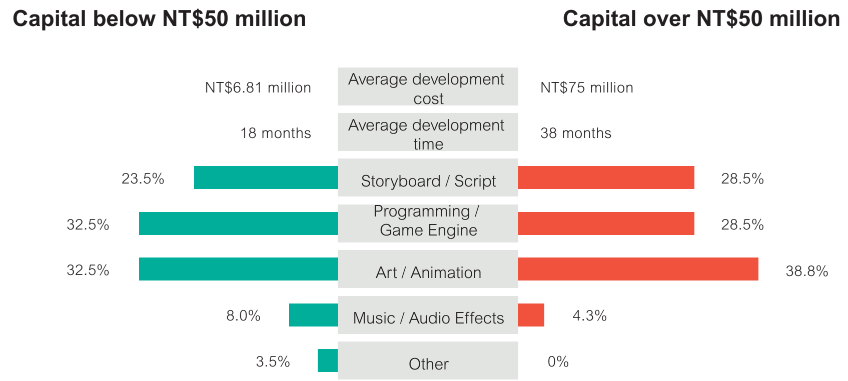


Figure 9. Cost of mobile game development in Taiwan
Source: Compiled by this survey.

8. Overview of the Online Game Platforms in Taiwan in 2019

Of the 499 online games active in the market during 2019, mobile games accounted for 256 of the total with 65 of them also being new titles, serving as a testament to the fact that most game companies today rely on mobile games as their primary focus.

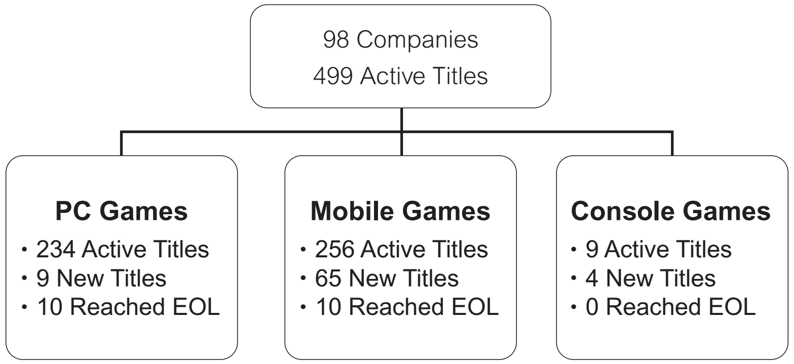


Figure 10. Overview of the online games industry in Taiwan in 2019
Source: Compiled by this survey.

9. Overview of the Single-Machine Game Platforms in Taiwan

The domestic single-machine game market is dominated by licensed foreign titles published in Taiwan, with console games being the most popular platform.

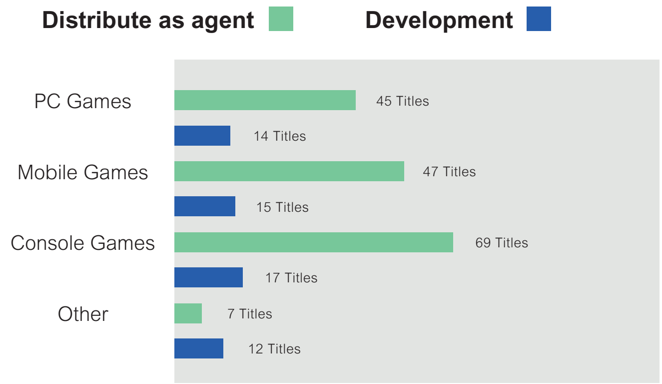


Figure 11. Platform distribution of single-machine games in Taiwan
Source: Compiled by this survey.

10. The E-sports Teams and Talent Availability in Taiwan

For e-sports teams in Taiwan, players (professional players and trainees) are the group that accounts for the highest ratio of personnel at about 67%. As for gender distribution, the number of males in the industry far surpasses that of females, with females mostly undertaking logistics or support roles.

Table 1. Description of e-sports team composition

Job Title	Description
Professional Player	Professional players are players that have been officially registered on the team roster for a specific e-sports competition category.
Trainee	Trainees are players that have demonstrated the potential to become professional players in a specific e-sports title and have been taken under the wing of an e-sports team through short-term contracts for further training. Trainees tend to be young, at around 14-17 years old, active students that cannot yet be officially registered to become a professional player.
Coach	Coaches are retired professional players or highly experienced amateur players that are in charge of helping players with learning game knowledge, establishing competition strategies, or building mental fortitude.
Logistics	The logistics management role for an e-sports team includes members like the team lead, manager, composition analyst, game analyst, nutritionist, and other support roles that help players prepare for a competition.

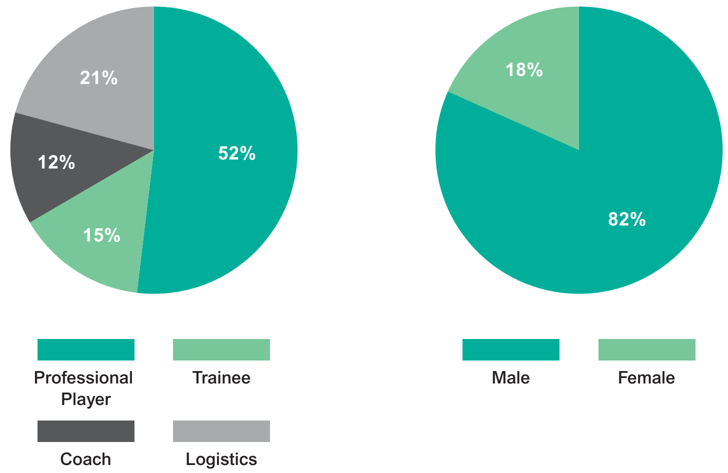


Figure 12. Composition and gender ratio of e-sports teams in Taiwan
Source: Summarized from the survey questionnaire.

11. The Focuses of E-sports Teams in Taiwan

The focuses of e-sports teams in Taiwan are related to the availability of professional e-sports leagues. Therefore, *Arena of Valor*, which has the Garena Challenger Series (GCS), and *League of Legends*, which has the Pacific Championship Series (PCS), are the two titles that e-sports teams focus on most.

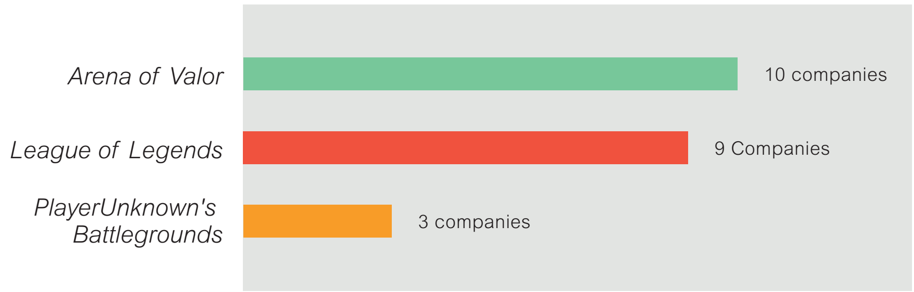


Figure 13. Top 3 focuses of e-sports teams in Taiwan
Source: Summarized from the survey questionnaire.

OVERVIEW

02

1. Overview of the Overall Industry

1.1. Geographic distribution and gender ratio of games and e-sports companies in Taiwan

The gaming and e-sports industry is mostly concentrated in northern Taiwan, with 96 of the 117 companies in Taipei City, 12 in New Taipei City, and only 9 in other counties and cities.

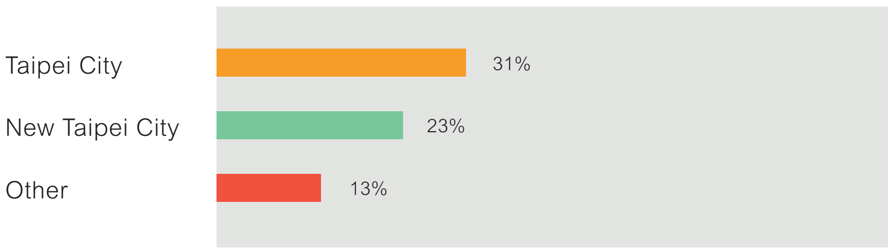


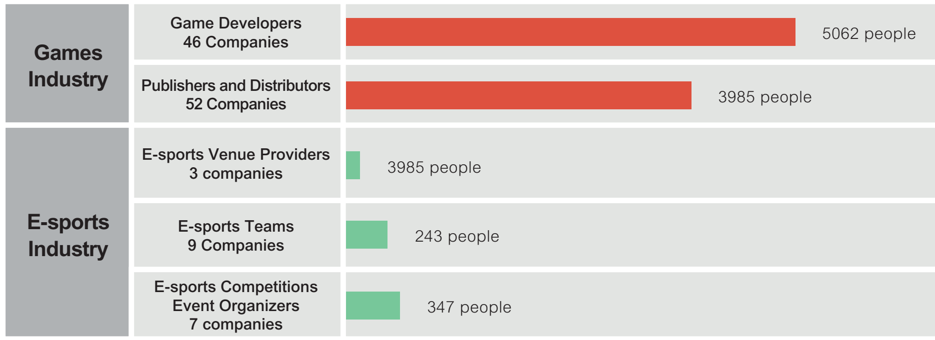
Figure 14. Geographic distribution of games and e-sports companies in Taiwan
Source: This survey.

In terms of gender ratio, males outnumber females by 2-fold in the games and e-sports industry.

Figure 15. Gender ratio of games and e-sports industry employees in Taiwan
Source: This survey.

1.2. Number of games and e-sports industry employees in Taiwan

The gaming industry had 9,047 employees spread among 98 companies, and the e-sports industry had 660 employees spread among 19 companies. Of the 5 main types of companies in the industry, game developers had the highest number of employees while e-sports competition venue providers had the fewest.



*Classified according to each company's main course of business

Figure 16. Number of games and e-sports industry employees in Taiwan
Source: This survey.

2. Revenue and Business Model

2.1. Games Industry

2.1.1. Overview of games industry revenues in Taiwan in 2019

The total revenue of the games industry in 2019 was about NT$45.6 billion, with the revenue from publishing and distribution at NT$25.4 billion being slightly higher than that of game development at NT$20.2 billion.

In 2019, the games industry in Taiwan generated an approximate total revenue of NT$45.6 billion.

Figure 17. Overview of games industry revenues in Taiwan in 2019
Source: Estimated by this survey.

2.1.2. Overseas income/expenditure of the games industry in Taiwan

Most companies publish or distribute licensed overseas titles in the domestic market, with minimal licensing expenditures in the domestic market.

The business focus of Taiwanese companies overseas is mostly centered in Hong Kong, Macao, and China, with Japan, North America, and Southeast Asia being the next biggest markets. The primary focus is in the Asian regions.

Table 2. Geographic distribution of games and e-sports companies in Taiwan

Income/Expenditure	Domestic Percentage (%)	Overseas Percentage (%)
Total	66.8	33.2
License Income	48.7	51.3
License Expenditures	10.8	89.2

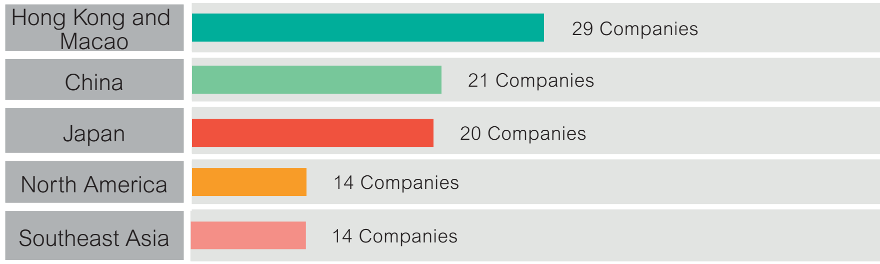


Figure 18. Foreign markets of game companies in Taiwan
Source: Summarized from the survey questionnaire.

2.1.3. Game license purchases by companies based in Taiwan

Most companies in Taiwan are buying licenses from Asian markets such as Korea, China, Hong Kong, Macao, and Japan. The most dominant type of license is games-related licenses, which includes the right to distribute as well as the right to adapt intellectual property.

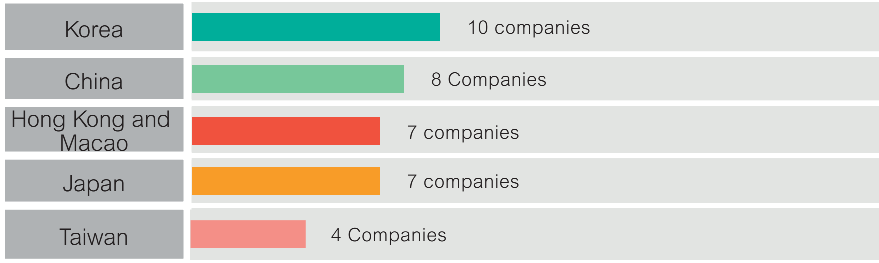


Figure 19. Source regions of game license purchases by companies in Taiwan
Source: Summarized from the survey questionnaire.

2.1.4. Game license sales by companies in Taiwan

The sales of licensed games is heavily influenced by language constraints, with Taiwan, China, Hong Kong, Macao, and Japan being the main markets.

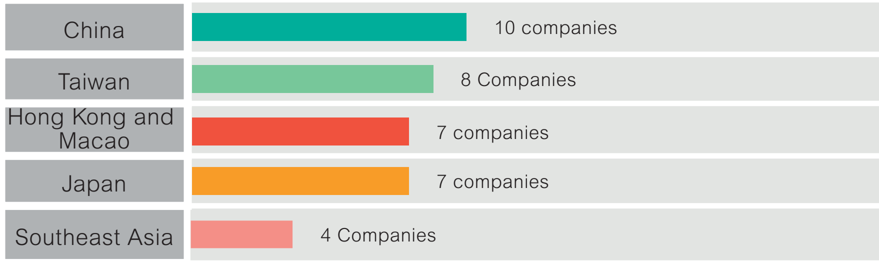
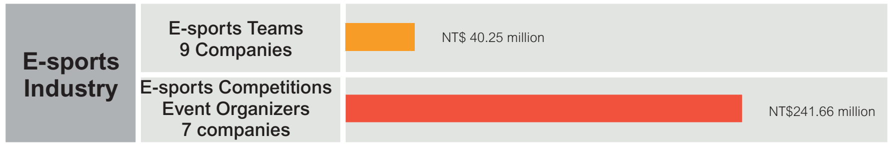


Figure 20. Target regions of game license sales by companies in Taiwan
Source: Summarized from the survey questionnaire.

2.2. E-sports Industry

2.2.1. Overview of e-sports industry revenues in Taiwan in 2019

Different segments of the e-sports industry have vastly different revenues, with the most profitable being the e-sports competition segment at NT$241.66 million.



In 2019, the e-sports industry in Taiwan generated an approximate total revenue of NT$280 million.

Figure 21. Overview of e-sports industry revenues in Taiwan in 2019
Source: Estimated by this survey.

2.2.2. Revenue structure of the e-sports industry in Taiwan

The main revenue of e-sports teams in Taiwan comes from prize money and sponsorships, with the two together accounting for more than half of the total revenue; e-sports events are mainly subsidized by the IP owner, though advertising and sponsorships also bring in a lot of revenue.

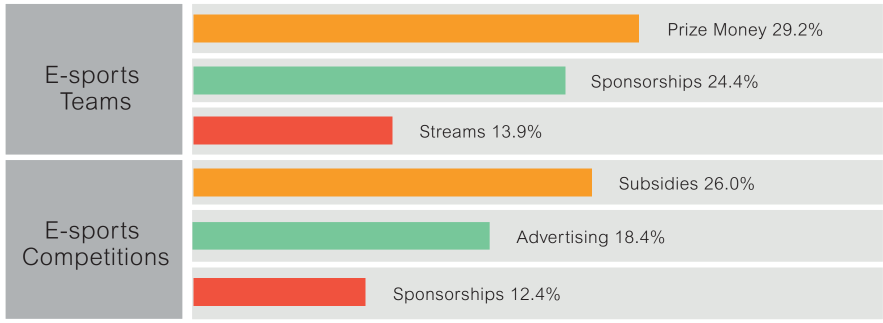


Figure 22. Primary revenue streams of the e-sports industries in Taiwan
Source: Summarized from the survey questionnaire.

2.2.3. Income and expenditure of e-sports competitions in Taiwan in 2019

Online tournaments are low cost and low revenue, while offline tournaments are high cost and high revenue. Generally speaking, online tournaments are held in the form of small tournaments, while offline tournaments are mostly large tournaments or finals.

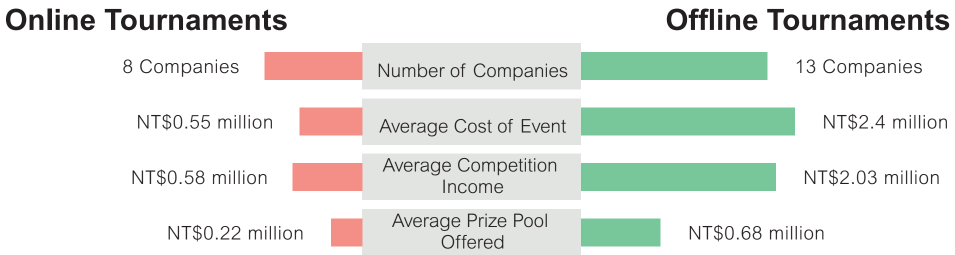
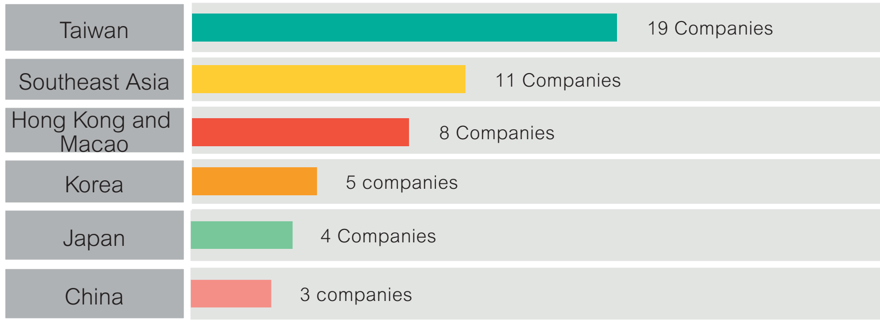


Figure 23. State of e-sports competitions in Taiwan in 2019
Source: Summarized from the survey questionnaire.

2.2.4. Income from domestic and foreign competitions

The e-sports industry in Taiwan primarily generates its revenue from the domestic market, with domestic income standing at 84% of the total, a far higher percentage compared to revenue from overseas markets.



Domestic Revenue 84% > 16% Overseas Revenue

Figure 24. Domestic vs foreign revenue sources of e-sports industries
Source: Summarized from the survey questionnaire.

FORECAST

03

1. Overcoming the Difficulties of the Taiwan Indie Game Development Sector

1.1. The state of the indie game development sector in Taiwan

With more licensed overseas titles entering the domestic market, the number of game development companies in Taiwan is slowly falling, and their products are less capable of competing with licensed overseas titles backed by a higher capital and a larger player base in the mainstream games market. Consequently, the numerous and infinitely creative indie game development studios have become the main driver behind the Taiwan games development market.

1.2. What are indie games?

1.2.1. Official definitions

Table 3. Taipei Game Show Indie House Application Requirements

	Qualification Criterion	Description
1	Management Rights	The studio or company registering must have autonomous management rights and have less than 49% of its funding come from external sources.
2	Capital	Studios or companies based in Taiwan must also fit the following criteria: The company or studio has to have capital of less than NT$5 million and an annual income of less than NT$15 million.

Source: Table 3. Taipei Game Show Indie House Official Website

1.2.2. General definition

U-ACG founder Liang Shih-Yu proposed in his column *Indie Games: Taiwan's New Voice* the following definition of indie games: "(indie games) allow developers to make games that they want to make, unhampered from commercialization considerations raised by management or stockholders, thereby allowing for the creation of experimental and innovative game titles with never-before-seen play styles."

1.3. Main drivers behind indie game development

Table 4. Main drivers behind indie game development

	Main drivers behind indie game development	Description
1	Game Engine	• Game engines have largely adopted a free-to-use model in recent years. • This has allowed indie game teams to divert more resources to supporting and recruiting talent.
2	The Internet	• Indie game titles can simply be published on the Internet, circumventing the need for a publisher. • Indie games tend to be quick to develop and can be run in browsers directly.
3	Publisher Platforms	• Publisher platforms allow players to download titles they have purchased over the Internet and start playing immediately after installation. • Many game companies have created dedicated platforms for games they have developed themselves. • While dominated by titles owned by the company behind the platform, these platforms may also feature some titles from other developers. • Apart from titles owned by the company behind the platform, publisher platforms may also feature many titles from other developers. Two notable examples in this category are Steam and Epic Games.
4	Streaming	• The rise of online streaming platforms since 2010 has caused a revolution in the entertainment industry for many people. • Youtube • Twitch

Source: Compiled by this survey.

1.4. Genre specialties for indie game studios in Taiwan

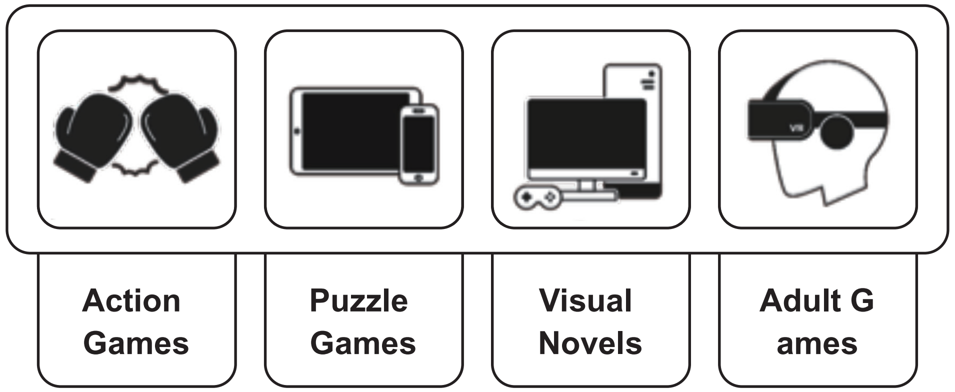


Figure 25. Genre specialties for indie game studios in Taiwan
Source: Compiled by this survey.

1.5. Difficulties faced by indie game developers in Taiwan

Table 5. Difficulties faced by indie game developers in Taiwan

Difficulties faced by indie game developers in Taiwan		Description
1	Talent Shortage	Taiwan currently has a lack of experienced game developers in the indie game development sector, owing to the deteriorating development sector of larger game companies. This has caused a break in the passing on of experience between experienced developers and new developers.
2	Technical Costs	Games of different genres function on vastly different programming structures and game logic. If an indie development game team wishes to try their hand at other genres of games, they may need to spend a lot of time relearning and figuring out different approaches to development, thus accruing considerable hidden costs.
3	Source of Funding	The limited amount of available funding makes it impossible for indie game teams to advertise through the Internet, TV, and buses like large game companies. Indie games mostly rely on competition awards, media coverage, and word of mouth among players to increase their exposure.
4	Market Reception	For indie games, market reception is a serious issue. With the games market in Taiwan almost completely dominated by licensed overseas titles, it is very risky to hinge the success of their newly developed title on the domestic market. Consequently, most indie game developers in Taiwan choose to cater to the international market.
5	Cultural Identity	Superheroes remind people of the United States. Knights, princesses, castles, and dragons remind people of Europe. Ninjas, samurais, and anime remind people of Japan. Taiwan, however, lacks immediately relatable culture symbols.

Source: Compiled by this survey.

1.6. Future Prospects of Indie Games in Taiwan

1.6.1. Future Prospects

Through the effort of developers and various non-governmental organizations, Taiwan's indie game development sector has continued to make progress. For example, the Taiwan Game Cooperation Development Association and the Digital Content & Entertainment Development organization are known to provide assistance to indie development teams, DIT Startup is an investor of outstanding development teams, and the International Game Developers Association Taiwan helps teams interact with each other and share their experiences.

The resources provided by the government in support of independent games include: The Independent Game Development Incentive Program from the Industrial Development Bureau, Ministry of Economic Affairs, the Original Independent Game Developers and Ecosystem Acceleration Program, and the International Online Publisher Matching Seminar for Independent Game Developers have all helped the development of the indie game sector in Taiwan.

1.6.2. Government Policy

Apart from existing policies that help with game development and production, the government should also focus on helping indie games in Taiwan go global.

■ Encouraging Participation in Overseas Exhibitions

Participating in overseas exhibitions will allow indie teams in Taiwan to interact with developers, publishers, and the media from other countries, allowing for the cultivation of deeper collaborations and access to player bases from different markets.

■ Encourage Collaboration with Other Industries

The government should encourage collaborations with comics, novels, movies, and other games. The adaptation of successful works is especially useful at building recognized Taiwan-based intellectual properties that can create a more tightly intertwined cultural industry.

■ Integration of Related Government Departments

One complaint that many indie game developers have mentioned is the fact that while games are distinctly cultural in content, the regulation of the games industry falls under the purview of the Ministry of Economic Affairs. The result is that although teams may want to seek help from the government, they often have the dilemma of not knowing who to apply to and how to apply.

2. KURURINPA: The Internet Meme Birthed from the *Princess Connect! Re:Dive* Intellectual Property

2.1. Introduction

The success of *Princess Connect! Re:Dive* can be attributed both to the game itself and its various cross-IP collaborations. Additionally, it also relied greatly on secondary creations such as fan content and homages that have generated a lot of online discussion and exposure. The most notable among them are the “Kururinpa” and “Head-swap Kyaru” memes.

2.2. The success of *Princess Connect! Re:Dive* Crossover Character List

2.2.1. Crossover Characters

Table 6. ***Princess Connect! Re:Dive*** crossover character list

The success of *Princess Connect! Re:Dive* Crossover Character List			
Type of Crossover	IP Owner	IP Title	Character Name
Crossover Characters	Cygames	*Rage of Bahamut*	Grea
			Anne
			Lou
		Shadowverse	Aria, Miasma Fairy
			Luna, Soul Keeper
		Granblue Fantasy	Djeeta
	Namco	*The Idolmaster Cinderella Girls*	Uzuki Shimamura
			Shibuya Rin
			Honda Mio
Anime Character Crossover	Media Factory	*Re:Zero – Starting Life in Another World*	Emilia
			Ram
			Rem
Idol Show Crossover	Bilibili	Hashimoto Kanna	Kanna (China version only)

Source: The success of ***Princess Connect! Re:Dive***

2.2.2. Anime Crossover

April 2020 marks the initial airing of the *Princess Connect! Re:Dive* anime. The anime series with a total of 13 episodes was aired across various Japanese television channels such as TOKYOMX, KBS Kyoto, BS11, and Sun Television, while the Internet streaming rights for the Chinese subtitled version were exclusively licensed to Chinese video platform Bilibili. The first season of the anime received was well-received, and a second season was announced during the 2.5-year anniversary broadcast, with CygamesPictures still being the animation studio in charge.

2.2.3. Vtuber Collaboration

To promote the release of the international version of *Princess Connect! Re:Dive*, a collaboration with Japanese Vtuber company Hololive was announced, wherein Hololive EN members Gawr Gura, Mori Calliope, Ninomae Ina’nis, Takanashi Kiara, and Watson Amelia would stream gameplay of the international version on their respective channels starting January 13. Notably, Ninomae Ina’nis, who is known for being a capable illustrator, drew a picture of the game’s popular character Kokkoro on stream.

Table 7. ***Princess Connect! Re:Dive*** collaboration streams with Hololive

Hololive EN Member	Date of Stream	Stream Content	Highest Simultaneous View Count
Takanashi Kiara	January 13, 2021	Gameplay	14,230 people
Watson Amelia	January 20, 2021	Gameplay	19,569 people
Ninomae Ina’nis	January 22, 2021	Illustration	11,531 people
Gawr Gura	January 31, 2021	Singing	30,603 people

Source: Youtube

2.2.4. Physical Merchandise

Physical merchandise is an important aspect of the Japanese ACG industry. These merchandises are not only a source of revenue for the games companies but also help increase player retention as collectible items.
In April 2020, an official live stream announced the arrival of 1/7 PVC figures produced by F:NEX and nendoroids produced by Good Smile Company.

2.3. The success of *Princess Connect! Re:Dive* Internet Popularity

The *Princess Connect! Re:Dive* IP serves to illustrate that Cygames is capable of conducting cross-industry integration in the broader ACG market using resources readily accessible to the company, making the title an outstanding example of success in the games industry. Japan has a plethora of exceptional ACG content in the light novel, manga, anime, and games market. The vibrant activity in each of its cultural content industries has allowed them to combine into a force greater than the sum of its parts, helping Japan export its ACG content worldwide.

2.4. Conclusion

Even though Taiwan neither possesses a comprehensive ACG industry chain like Japan nor is able to purchase IP licensing of games, animation, or comics titles for adaptation or collaboration at exorbitant prices like China, Taiwan remains highly capable of creating original IPs.

Apart from cross-industry collaboration, self-driven development in each industry remains a major focus. For the games industry, most of the innovative original content in Taiwan comes from the indie game market. Ergo, building an environment for the continuous proliferation of outstanding indie games is the key to making made-in-Taiwan games internationally recognized.

3. Retrospective and Future Prospects of Taiwan Produced E-sports Games

3.1. Introduction

E-sports is an emerging sports genre beloved by young people in the modern generation. Each type of e-sport is based on a different competitive e-sports title, with notable examples including the globally popular *League of Legends*, *CS:GO*, and *Street Fighter*. The popularity of these titles has also driven them into the heart of mainstream culture. While Taiwan has been able to produce world champion players in various e-sports tournaments and has a highly ubiquitous e-sports spectator and player culture, rarely do domestically produced e-sports titles become a competitive sensation.

3.2. Professional E-sports Leagues in Recent Years

Table 8. E-sports competitions with Taiwan participation in recent years

Professional E-sports Leagues in Recent Years with Taiwan participation		
League	Time	E-sports Title
Taiwan eSports League (TESL)	2008 - 2014	*SF Online*
		Crazyracing Kartrider
		Starcraft II
		League of Legends
Garena Premier League (GPL)	2012 - 2014	*League of Legends*
League of Legends Master Series (LMS)	2014 - 2020	*League of Legends*
Special Force II Pro League (SF2PL)	2015 - 2016	*SF2 Online*
AEL Professional League	2015 - 2016	*Alliance of Valiant Arms (A.V.A.)*
Overwatch Pacific Championship (OPC)	2017	*Overwatch*
Garena Challenger Series (GCS)	2017 - present	*Arena of Valor*
PUBG Master League	2019 - present	*PlayerUnknown's Battlegrounds*
Pacific Championship Series (PCS)	2020 - present	*League of Legends*
PUBG Mobile Professional League	2020 - present	*PlayerUnknown's Battlegrounds Mobile*

Source: This survey.

3.3. Case Studies of Taiwan Produced E-sports Games

3.3.1. *God of Destiny*

- A MOBA game that combines eastern and western mythologies, produced by Wayi International after three years of development.
- Initially highly anticipated by *League of Legends* players during the game's beta.
- Faced with inadequate server stability during launch as well as fierce competition from the market.

3.3.2. *Bound Strike*

- A mobile collectible card game developed by JFI Games and launched in 2016.
- The game's innovative real-time strategy card game mechanic differentiates itself from competitors on the market.
- Its one million NTD prize pool tournament attracted over 700 players to participate.
- Fierce competition from the mobile game segment and the limited audience for card games resulted in poor market reception after some time.

3.4. Difficulties Faced by Taiwan Produced E-sports Games

3.4.1. Talent Shortage

- Most games aim for short-term yields, resulting in limited talent development possibilities.
- The China games market is developing at a rapid pace with both superior scale and higher salaries, causing a brain drain of Taiwanese talent.

3.4.2. Environmental Challenges

- Domestically produced titles tend to lack game content, significantly damaging their player retention capabilities.
- Market competition means that players are then likely to shift their focus to other games.

3.5. Future Prospects of Taiwan Produced E-sports Games

3.5.1. Classic Game Genres

- Fighting games, FPS, and RTS.
- These genres have an established audience on the international market.
- Increased PvE gameplay depth in combination with a premium pay-to-play model can help recoup development costs quickly.

3.5.2. Emerging Game Genres

- Games developed with niche play styles or innovative mechanics.
- Has the potential to become incredibly popular but also has a higher risk of failure.

3.5.3. Brand Establishment

- Start by creating multiple smaller projects to establish the brand image.
- Then enter the e-sports market once the brand has an established fanbase.
- Successful example: Wargaming.net

3.5.4. IP Establishment

- Start by designing memorable and attractive game content.
- Then create derivative content from the game's established characters or world.
- Successful example: *Clash of Clans* IP Series from Supercell

4. The Southbound E-sports Frontier - The 3 Billion USD Southeast Asia Gaming Market

4.1. Introduction

With the games and e-sports markets in regions such as North America, Europe, China, and Northeast Asia becoming saturated with fierce competition, the markets of developing nations with less economic development but still considerable population bases such as Southeast Asia and South America have gradually become a center of attention. As infrastructures and network accessibility in these areas undergo increased development, they have become the quintessential blue ocean market for the games and e-sports industry.

4.2. Recent Developments in Southeast Asia

- Southeast Asian counties have seen rapid growth in digital content in recent years, going from 8.1% to 11.6%.
- The "Big Six" of Southeast Asia—Indonesia, the Philippines, Vietnam, Thailand, Malaysia, and Singapore—are the key markets for the e-sports industry in the region.
- In 2018, the player populations in Southeast Asia were less than 50% of the total population, demonstrating considerable potential for growth.
- The mobile games market in Southeast Asia had a revenue of US$420 million in Q2 2019, growing to US$600 million in Q2 2020 with a growth rate of 43.8%.

4.3. E-sports Games in Southeast Asia

4.3.1. *League of Legends*

- The 2012 Garena Premier League (GPL) had 5 Southeast Asian teams.
- The multilingual streams were very effective in promoting the game to the Southeast Asia market.
- The Vietnam server is the fourth most populous server in the world with 1.16 million players.

4.3.2. *Dota 2*

- Famous players like Iceiceice and ChuaN have won multiple international *Dota 2* tournaments.
- The player base is heavily based in English-speaking countries such as the Philippines and Indonesia.

4.3.3. *Mobile Legends*

- The game grossed US$490 million in global revenue over four years, with US$300 million coming from Southeast Asia.
- The game had 280 million downloads worldwide, with 100 million coming from Indonesia, the most of any region.
- The game supports 25 different languages and has characters based on mythologies from various countries.

4.3.4. *Free Fire*

- The game is mainly active in the Latin America and Southeast Asia markets.
- The game has low hardware requirements and even introduced special game modes for amateur players.

4.4. E-sports Games in Southeast Asia

Jakarta Palembang 2018 Asian Games

Item	Gold Medal	Silver Medal	Bronze Medal
Clash Royale	Indonesia	China	Vietnam
Hearthstone	Hong Kong	Indonesia	India
League of Legends	China	Korea	Chinese Taipei
Starcraft II	Korea	Chinese Taipei	Vietnam
PES 2018	Japan	Iran	Vietnam
Arena of Valor	China	Chinese Taipei	Vietnam

Figure 26. Medals won at the Jakarta Palembang 2018 Asian Games
Source: Olympic Council of Asia

Philippines 2019 Southeast Asian Games

Item	Gold Medal	Silver Medal	Bronze Medal
Dota 2	The Philippines	Thailand	Vietnam
Starcraft II	The Philippines	Singapore	Vietnam
Hearthstone	Malaysia	Thailand	Singapore
Tekken 7	Thailand	The Philippines	The Philippines
Arena of Valor	Thailand	Indonesia	Vietnam
Mobile Legends	The Philippines	Indonesia	Malaysia

Figure 27. Medals won at the Philippines 2019 Southeast Asian Games
Source: Olympic Council of Asia

4.5. Gaming Environment of Southeast Asia

4.5.1. Population

- The population in Southeast Asia is mainly made up of middle-class young adults showing increasing digital media consumption habits and spending power, with this increase being a trend likely to continue into the foreseeable future.
- However, linguistic and cultural taboos are also barriers to entering the Southeast Asia market as games need to carefully design their themes around the restrictions.

4.5.2. Market Environment

- The Southeast Asian mobile game market is worth nearly US$3 billion.
- The region has low per capita consumption, with every country except for Singapore having an average return per user (ARPU) of approximately US$20.

4.5.3. Hardware Environment

- Smartphones below US$100 account for more than 1/4 of the Southeast Asian market.
- Since 2020, the prevalence of low-end phones has been falling while that of high-end phones has risen.
- The positive reception of *Genshin Impact* in Southeast Asia is an indication that the hardware problems in the region are gradually resolving.

4.6. Development Potential

4.6.1. Games Industry

- There is potential for developing and selling games in Southeast Asia.
- This may take the form of game development and distribution locations.

4.6.2. E-sports Industry

- Some coaches and players are joining Southeast Asian teams.
- Elite talent are also taking management or project planning roles in Southeast Asian e-sports companies.

5. Rise of the Pandemic and the E-sports Miracle

5.1. Introduction

In early 2020, the outbreak of the COVID-19 pandemic caused governments around the world to implement harsh restrictions on public events in an attempt to halt the spread of the virus.

E-sports competitions are an emerging sports category that primarily takes place over a digital medium. Although matches can generally be held online, issues of fairness mean players must compete in physical venues to eliminate variances in network environments and hardware. Consequently, international air travel restrictions caused by the pandemic have caused an equally noticeable impact on the e-sports industry.

5.2. Impact of COVID-19 on E-sports Competitions in 2020

5.2.1. *CS:GO*

- The largest *CS:GO* tournament, ESL One Rio Major 2020, was canceled.
- IEM Katowice 2020, which was expected to have around 170,000 spectators, banned physical audiences.
- Players were caught cheating in the online tournament, with the Chinese team 8EASY banned.

5.2.2. *League of Legends*

- 8 of the 12 top leagues suspended their tournament activities for more than 3 weeks.
- The Season 10 League of Legends World Championship canceled its planned tour around China and took place entirely in Shanghai instead.
- The Vietnam national representative team VCS was ultimately not able to attend the Season 10 League of Legends World Championship.

5.3. Impact of COVID-19 on E-sports Competitions in Taiwan in 2020

5.3.1. Taipei Game Show

- In January, Gamania Group, JUSTDAN, and Wanin International pulled out of Taipei Game Show due to the epidemic. Soon after, the show was postponed via official announcement.
- In March, the pandemic situation worsened and the show was officially canceled. Purchased tickets were refunded.

5.3.2. League of Legends School Championship (LSC)

- In March, the Chinese Taipei E-sports Association announced that the LSC would be postponed.
- As infection numbers dropped in July, the LSC grand championship was held in the Taiwan Sport Industry Expo, attracting many fans to the event.

5.4. The E-sports Miracle

5.4.1. Collaboration with Other Sports

- The International E-sports Federation (IESF) has adopted various sports games as events in the World Cyber Games in recent years.
- The game *eFootball PES* became a demonstration sport during the 2018 Asian Games.
- The Fédération Internationale de Football Association (FIFA) started the FIFAe series e-sports tournament.
- Professional racers competed in Formula 1 e-sports tournaments during the pandemic.
- The Formula 1 Virtual Grand Prix was watched by 30 million viewers.

5.4.2. The Livestream Economy

- The e-sports streaming platform Twitch reached 3.1 million total viewing hours in Q1 2020, an increase of 27.1% over the same period last year.
- Twitch Q1 viewing time comparison for the last three years:

Table 9. Twitch Q1 viewing time comparison for the last three years.

2018 Q1	2019 Q1	2020 Q1
1.999 million hours	2.477 million hours	3.1 million hours

Source: Twitch

6. Overall Industry Trend Analysis

6.1. Industry Size

6.1.1. Revenue from mobile games accounted for over half of the total revenue of the games industry in Taiwan and is still increasing.

In fact, the mobile games market is also exhibiting similar growth trends in the global games market in recent years. As for Taiwan, its games market is seeing the mobile games market overtake the PC games market threefold in revenue, with mobile games accounting for 65.2% of total revenue and PC games only at 17.5%. It is expected that as 5G networks become more ubiquitous and users' smartphone hardware becomes more powerful, the mobile phone market will also reach new heights, signifying further potential for growth for the mobile games market.

6.1.2. E-sports revenue accounts for a relatively small proportion of the overall industry, and there is great room for growth.

In 2017, e-sports was officially recognized as a type of sport after the Legislative Yuan passed their revision on the Sports Industry Development Act. Much like every other sport, e-sports are heavily reliant upon the support of audiences and sponsorships. Due to the smaller domestic market, most e-sports games in Taiwan are licensed overseas titles run by an authorized publisher, and consequently have much more limited access to resources compared to countries with massive e-sports markets such as South Korea and China. Past surveys of e-sports industry revenues have shown that the most profitable item for the industry appears to be hardware sales, suggesting that e-sports competitions on their own do not generate enough revenue to support a company given the consumer patterns of Taiwanese audiences. On the whole, data suggests that the e-sports industry had revenues of NT$281 million and expenditures of NT$285 million with a loss of about $40 million, representing a 1.4% negative growth.

6.2. Game Development

6.2.1. Indie games are largely free of genre or topic restrictions.

The indie games of Taiwan have explored a variety of topics and backgrounds in recent years. Such games included *Detention*, which drew inspiration from the martial law period in Taiwanese history; *Devotion*, which explored the cultural and religious faith of the Taiwanese society during the 1980s; *Life Gallery*, which presented its narrative through a distinctive and unique art style; *Subscribe to My Adventure*, which explored the contemporary live-streaming culture; *PAGUI*, which utilized traditional Taiwanese temple culture as the basis of its action RPG gameplay; as well as titles like *The Leopard Catgirl in Miaoli* and *The Mikado Birdgirl in Taichung*, which are visual novels with alternate universes. Compared to indie development studios in countries that are more culturally conservative in the selection of their themes, Taiwan is more advantageous in the sense that development teams have considerably greater freedom of choice in themes for creators.

6.2.2. Game development in Taiwan is lacking in both resources and talent.

Taiwan is experiencing a shortage of talent for large-scale game projects. Many experienced large-project talents are moving to China, resulting in many large games being handled by inexperienced producers, which has negatively impacted the worldbuilding, game content, and gameplay depth of the titles they develop. At the same time, companies that are only focused on short-term gain may disband their development teams upon any sign of failure, which makes it even harder for developers to accumulate experience. In the mobile games market, most indie development teams in Taiwan are operating with a capital of less than NT$10 million and an average development cost per title of NT$7.36 million, while the average development cost per title of the overall game industry is NT$19.21 million, showing that indie companies are still far below industry average in terms of both capital and scale.

6.2.3. Indie games require a platform to provide matching services.

Many indie development teams in Taiwan have limited capital funding and do not have sufficient resources for marketing or acquiring IP licenses, which significantly restricts their ability to gain exposure. Survey data shows that 84.8% of development companies in Taiwan are completely dependent on developing original content, with only 15.2% having access to external sources for content. It is difficult to acquire licenses for most popular Japanese IPs, with development rights for them mostly owned by Chinese game companies. Most Taiwanese development teams are faced with a drought of suitable IPs for adaptation, signifying the need for greater cross-industry media integration in the domestic market. In the games industry, the most popular type of collaboration is with animation or comics IPs, with the second most popular being from literary works.

6.3. Game Service Providers

In terms of overseas license acquisition, most purchases in Taiwan come from the domestic market, Hong Kong, Macao, China, and Japan. Korea, in particular, is the country from which most Taiwanese companies purchase licenses from within the Asian region, owing to the fact that many online games in Taiwan are licensed Korean-developed titles. The sales of licensed titles is highest in the domestic market, followed by China, Hong Kong, Macao, and Japan, with Korea and Southeast Asia having fewer sales overall. However, Europe and the Americas have the lowest number in terms of both sales and acquisition of licensed games.

6.4. E-sports Teams and Competitions

6.4.1. International competitions are usually centered around the Taiwan, Hong Kong, and Macau region or the Southeast Asia region.

E-sports titles with global tournament reach such as *League of Legends*, *Valorant*, and *League of Legends: Wild Rift* from Riot Games, or *Overwatch*, *Starcraft*, and *Hearthstone* from Activision-Blizzard often divide their e-sports leagues based on market or player base size. In recent years, it has become increasingly common to classify Taiwan into the Taiwan, Macao, Hong Kong region or the Southeast Asia region. Examples of this include the League of Legends PCS league and the Hearthstone Masters tournament. E-sports leagues are usually centered around the Americas, the Asia-pacific, and Europe, with Taiwan rarely becoming an e-sports league of its own.

6.4.2. E-sports teams and competition event hosts increasingly turning to integrating diverse business models.

In recent years, e-sports teams in Taiwan have adapted more diversified approaches to market their teams, going well beyond just training players and attending tournaments. Teams are now having retired players transition into live streamers, become runners of e-sports competitions themselves, and even hire casters, commentators, and entire production teams dedicated to the promotion of their brand. At the same time, traditional event runners are also transforming into advertisement agencies, television studios, or other media entities that are still capable of hosting e-sports tournaments. In the face of mounting competition from the market, professional executive teams that used to be specialized in e-sports tournaments are now integrating media, event venue, and marketing resources to undertake all sorts of marketing or e-sports-related activities.

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