

Summary

Thailand's gaming industry is one of the fastest growing industries in Thailand, with a strong growth throughout the decades and is expected to have a continuous growth in the future. This is mainly due to a changing consumer behaviours driven by COVID-19, the development of technologies and the growth of e-sports. Although Thailand's gaming industry has experienced a crucial growth, the industry is yet still at an early stage, as Thai game developers are struggling to compete at an international level, mainly due to a lack of skilled labour and government support. With these pain points, apart from government support, Thailand has a potential to grow further and can pursue its competitiveness at an international level.



Content

- Overview of the Gaming Industry in Thailand
- Recent Trends of the Gaming Industry in Thailand
- Gaming Consumption Overview
- Supply Chain of the Gaming Industry
 - Key Characteristics
- The Gaming Business Model in Thailand
- The Global Gaming Market
- Key Players of the Gaming Industry in Thailand
- Government Plans
- Investment Incentives: DEPA and BOI Incentives
- Challenges, Future Trends and Opportunities



Overview of the Gaming Industry in Thailand

The gaming industry in Thailand has risen in popularity, as gaming is not only an entertainment media but is becoming a new place to socialize, creating network effects and expanding the gaming ecosystem wider to both gaming and other related businesses.

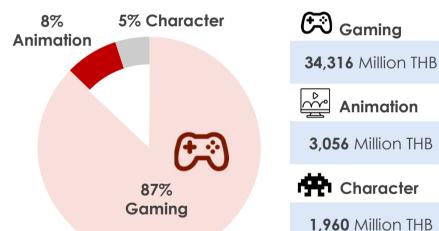
39,332 Million Baht

Total Market Value of Digital Content in 2020

87% Gaming Value

Of Total Digital Content Market Value in 2020

Market Value of Digital Content in Thailand in 2020



Thailand's digital content industry consists of 3 sectors; gaming, animation and character where the gaming sector dominates the industry with the largest market share of 87% or 34,316 million baht.

Gaming Industry Overview by Category in 2020

Largest Share in Each Category

By Consumption and Production



98% Imported game from international companies

By Sales Channels



65% In-app purchase (In-game Transactions)

By Device Segment



61% Mobile (Android & iOS)

Key Players in Thailand's Gaming Industry



Garena Online (Thailand) Co., Ltd.

Tencent

Tencent (Thailand) Co., Ltd.



Bandai Namco (Thailand) Co., Ltd.

Source: Digital Economy Promotion Agency (DEPA)

Note: [1] The list of key players are companies registered in Thailand with revenue mainly generated from their gaming business.

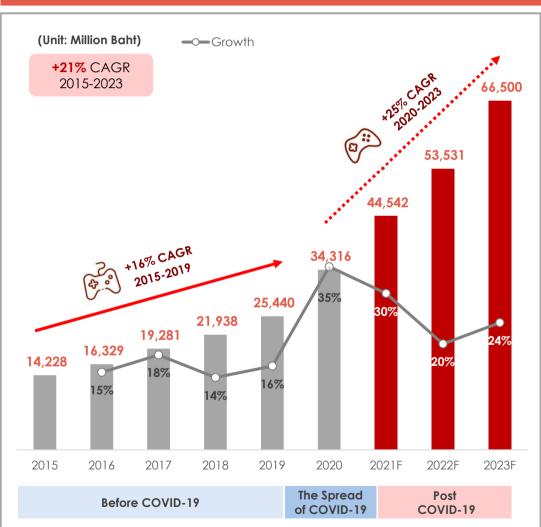
[2] Please note that the companies' financial data may include activities other than gaming.



Recent Trends of the Gaming Industry in Thailand (1/2)

- The gaming industry has already experienced a gradual growth before the pandemic, with 16% CAGR during 2015-2019.
- In 2020, many sectors were hit hard by COVID-19, but the gaming industry has massively accelerated growth, with the market in 2020 is being valued at 34,316 million baht, growing with the highest rate of 35% from 2019.
- With this potential growth, the gaming industry is projected to reach 65,500 million baht in 2023 or growth at 24% CAGR between 2020-2023.

Market Value of the Gaming Industry in Thailand



Key Drivers

Before COVID-19

- ▶ Digital innovation and technology development not only increased gaming experiences of players but also accelerated game creation processes
- ▶ The rising internet penetration and more affordable smartphones led to a greater engagement in mobile games and increased number of players.
- ▶ The growth of Thai e-sports has positively changed attitudes towards gaming, as Thailand's E-sports was recognized as an official sport by the Sports Authority of Thailand in 2017.

The Spread of COVID-19

- ▶ A changing consumer behaviour to new normal lifestyles due to COVID-19 stimulated people to spend more leisure time at home and attracted new players into the community.
- ▶ More engagement in online activities due to COVID-19 also drove growth in online games and the demand for in-app purchases.
- ▶ A new place to socialize as games have emerged into social communities that drawn people to communicate and interact with each other.

Post COVID-19

- ► **Technology advancement** continues to enhance gaming experiences such as VR, AR, cloud gaming and the metaverse.
- ▶ The expansion of gaming ecosystems, where growth of the gaming industry and e-sports creates new jobs, new business models and opportunities for non-gaming businesses i.e., advertising.

Source: Digital Economy Promotion Agency (DEPA), Public news



Recent Trends of the Gaming Industry in Thailand (2/2)

Market Value of the Gaming Industry in Thailand by Category (2020)

By Consumption and Production

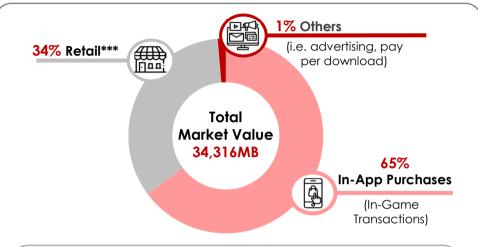
mport for Domestic Consumption Consumptio 33,479MB (98%) n Value* 33,908 Total Million Baht Production for Market Value Domestic Consumption 34.316MB 429MB (1%) **Production** Value** Production for 837 Million **Baht Export** 408MB (1%)

- In 2020, the consumption value accounted for 33,908 million baht but the production value was found to be only 837 million baht.
- This shows that Thailand's gaming industry is driven by consumption value, which mostly derives from imported games produced internationally.
- This is because games produced by international companies, especially in countries with full governmental support, can deliver better quality and are able to compete in the global market.

Note: *The consumption value mentioned in this section is based on the value of domestic consumption, which includes both the consumption of imported games from international companies and those produced domestically.

**The production value mentioned in this section is based on the value of domestic production, which includes the domestic production of games and those produced for export.

By Sales Channels



- In 2020, the majority of sales was valued from in-app purchases, which made up 65% of total market value, followed by retail at 34% and others at only 1%.
- Reasons for the highest sales of in-app purchases were:
 - o The popularity of mobile games and the Free-to-Play business model that can attracts more consumers easily to engage in games and drive demand.
 - A wide variety of online payment methods accelerates convenience and flexibility for users to purchase or make any transactions online.

Note: ***Retail sales mentioned in this section refers to games sold from physical stores or from online distribution platforms.

As more than 98% of games that are popular in Thailand are imported from abroad, this clearly shows that sales of in-app purchases can pull money into international game developers and multinational platforms.

Source: Digital Economy Promotion Agency (DEPA)



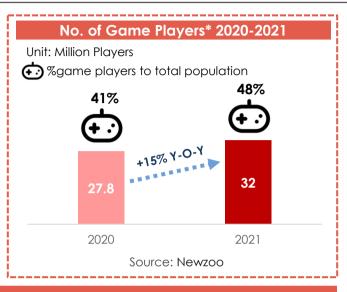
Gaming Consumption Overview

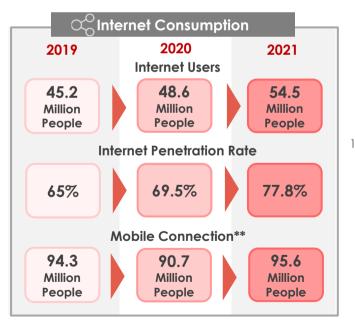
- Recently, the gaming industry experienced a massive surge in players as almost half of the total Thai
 population plays games (48%) and the gaming industry is growing throughout the mobile, PC and
 console markets.
- According to Newzoo, there were 32 million people playing games in 2021, increasing by 15% from 27.8 million people in 2020.
- Regarding the market value of games by device segment in 2020, it shows that Thais are mostly using mobile for gaming as Android and iOS generated the highest revenue and the highest CAGR growth between 2017-2020.

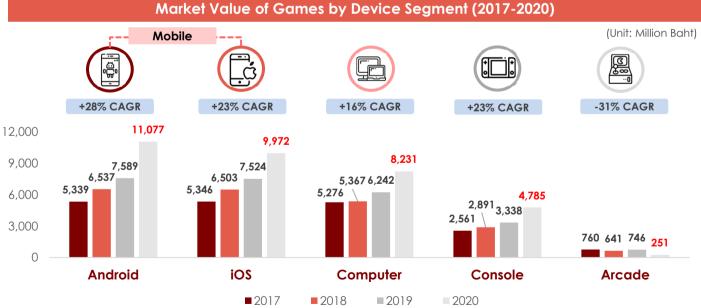
This indicated that mobile gaming is the fastest-growing segment, which is driven mainly by:



- The rising internet penetration and connectivity increased the demand for mobile gaming, as consumers can easily access games on mobile devices without the need to buy any other specific devices to play games.
- More affordable smartphones, as many smartphone brands offer a standard model that can also offer a good gaming experience, at a lower cost than ever before.







Source: DataReportal , Digital Economy Promotion Agency (DEPA)

Note: *No. of game players mentioned in this section refers to people who play games on any of the devices including mobile, PC, console or arcade.

**Please note many people have more than one mobile connection, therefore the number of mobile connections may exceed the number of internet users.



Supply Chain of the Gaming Industry

- According to the general supply chain of the gaming industry, there are 4 main stakeholders including game developers, publishers, distributors and
 consumers, and 3 support stakeholders including middleware, hardware manufacturers and internet service providers or telecom operators.
- Within the chain, gaming companies may be in charged of more than one core function, especially leading companies such as Sony, Nintendo and Activision Blizzard, who have their own in-house game developers, publishers and own distribution platforms to deliver to end-consumers.

Flow of the Traditional Supply Chain

- The flow of the traditional supply chain consists of 4 core functions, from game creation by game developers, and then game production into the final-product by game publishers.
- Followed by game distribution by distributors or retailers and finally deliver to end-consumers or players.

Flow of Mobile-Driven and Online Gaming Supply Chain

 With an emergence of the internet, advanced technologies and the diffusion of mobile devices, the flow of the supply chain has shifted its structure, which allows game developers to distribute their games directly through online distribution channels such as the Apple App Store and Google Play Store.

Supply Chain of the Gaming Industry **Core Functions** Provides hardware products such as PC, console, mobile Hardware Middleware Manufacturer **Support Functions Production** Distribution Consumption **Game Creation Publishers** Distributors/ **Game Developers** Consumers **Content Providers Retailers** Internet Service Provider, Telecom **Emergence of the internet Operators Traditional Supply Chain** Mobile-Driven and Online Gaming Supply Chain

Source: Digital Economy Promotion Agency (DEPA), Creative Economy Agency (CEA)



Supply Chain of the Gaming Industry: Key Characteristics

Supply Chain of the Gaming Industry: Key Characteristics

	Stakeholders	Key Characteristics
	Game Developers	 Companies who are responsible for all aspects of game development including storyline, character animation, graphic design, or software coding for PC, consoles, mobile applications and arcades.
Core Functions	Publishers or Content Providers	 Companies who produce games into final-products and are responsible for all aspects of marketing and advertising to publish games in the market, which can be divided into 2 main types: Companies who publishes a game that has been developed internally by publishers or their own in-house development studio or own subsidiaries. Companies who are entitled to the ownership of the game copyright to publish, import or provide services in that country, region or continent. Some publishers are financing game developers for game development.
	Distributors or Retailers	 Companies who distribute games, contents or gaming related devices, either digitally through online distribution platforms or in physical stores to end-users such as: Online distribution platforms: Origin, Steam, Apple App Store, Google Play Store Physical stores: NADZ stores located in various department stores
	Consumers (End-Users)	 Individuals who consume games, either offline or online, through any device such as PCs, mobile, consoles or arcades.
Support Functions	Hardware Manufacturers	 Companies who manufacture electronic devices or related accessories, which are used to support both game developers and end-consumers: Developer side: supporting game development. Consumer side: enhancing gaming experiences of players, such as PCs, mobile, consoles and other accessories i.e., game controllers and mechanical keyboards.
	Middleware	Companies who produce software integrated into a game engine that adds services, features, and functionality such as code development and device storage to improve the game design process.
	Internet Service Providers, Telecom Operators	 Companies that provide access to internet connections and services that have enough speed to avoid lags in order to enhance the gaming experience of online games or any e-sports competitions.

Source: Digital Economy Promotion Agency (DEPA), Department of Trade Negotiations (DTN), Public news



The Gaming Business Model in Thailand

- The gaming business model can be divided into 3 main categories: Buy-to-Play, Pay-to-Play and Free-to-Play.
- Recently, Free-to-Play is the most popular gaming business model in Thailand as Free-to-Play games, mostly found in mobile games, is free to download and easy to access anywhere and anytime without the need to buy specific devices.
- The model can easily attract new players to try out the games and enhance greater engagement in diverse audience and demographic.

Buy-to-Play

Customer Pay One-Time Fee Access & Play Game

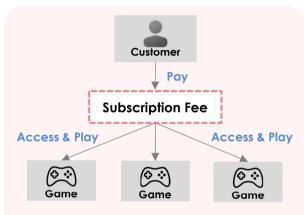
Buy-to-Play is a business model where the game is not free to download but players are required to pay a one-time fee in order to access the whole content of the game.

Market and Segment in Thailand

Business Model

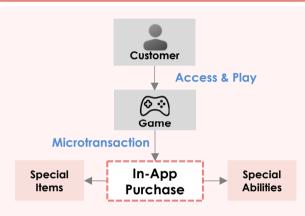
- Commonly found in the console and PC market, where customers purchase games through physical stores, online distribution platforms or e-shops such as
- <u>Physical Stores</u>: Central Department Stores or small game shops
- Online Stores: EA's Origin, Nintendo online store

Pay-to-Play



- Pay-to-Play is a business model where the game is not free to download but players are required to pay a monthly or annual membership in the form of a subscription fee to access a wide variety of games and maintain a playing account.
- Commonly found in the console and PCs market, where customers pay a subscription fee to access games through the digital storefront such as:
- EA's Origin online distribution platform, Nintendo online store and Sony's PlayStation Store

Free-to-Play



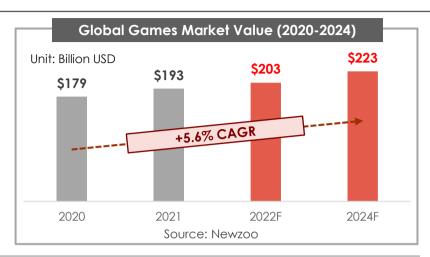
- Free-to-Play (or Freemium) is a business model where the game is free to download, players are not required to make any payment in order to access and play the game.
- But transactions can be made in the game depending on consumers' needs, such as inapp purchases for upgrades, special abilities, special items such as cosmetics and outfits.
- Commonly found in a mobile market where customers can install and access the whole content of the game without making any payments through online application stores such as:
- iOS' App stores and Android's Google play.

Source: Digital Economy Promotion Agency (DEPA), Public news



The Global Gaming Market

- According to Newzoo, the global gaming market in 2021 was valued at \$193 billion and is forecasted to reach a value of \$223 billion by 2024, with a registered CAGR of 5.6% between 2020-2024.
- In the global gaming landscape, Japan holds the largest market share among the top 10 global gaming companies, with its strong presence of many leading companies such as Sony, Nintendo and Bandai Namco.
- And due to its strength in technological adaptation and continuous innovation, Japan has been one of the dominant players in the global gaming market for decades.
- The US is also one of the prominent players in the global gaming market, with various leading companies such as Microsoft, Activision Blizzard, Electronic Arts, Epic Games and Take-Two Interactive Software.
- Therefore, as a global leading company, their business is not only to develop games, but also game publishing and distribution as well.



Global Leading Companies in the Gaming Market (2021)									
			Gaming Revenue in 2021* (USD)	Company Businesses			Most Profitable Games Sold in 2021		
	Company	Nationality		Developer	Publisher	Distributor	Games	Segment	
SONY	Sony Group Corporation	Japan	\$24.9 billion	√	✓	✓	PlayStation 5	Console	
Microsoft	Microsoft Corporation	US	\$16.3 billion	\checkmark	\checkmark	\checkmark	Xbox	Console	
Nintendo	Nintendo Co., Ltd.	Japan	\$15.3 billion	✓	✓	✓	Nintendo Switch	Console	
Tencent 腾讯	Tencent Holdings Ltd.	China	\$13.9 billion	✓	✓		PUBG: Mobile	PC, Console, Mobile	
ACTIVISION BIZZARD	Activision Blizzard, Inc.	US	\$8.8 billion	\checkmark	\checkmark	\checkmark	Call of Duty: Vanguard	PC, Console, Mobile	
Electronic Arts	Electronic Arts Inc.	US	\$5.6 billion	\checkmark	✓	✓	FIFA 22	PC, Console	
EPIC	Epic Games, Inc.	US	\$5.1 billion	\checkmark	\checkmark	\checkmark	Fortnite: Save the World	PC, Console	
12	Take-Two Interactive Software, Inc.	US	\$3.4 billion	✓	✓		NBA 2K22	PC, Console, Mobile	
UBISOFT	Ubisoft Entertainment SA	France	\$2.5 billion	\checkmark	✓	✓	Far Cry 6	PC, Console	
BANDAI	Bandai Namco Holdings Inc.	Japan	\$2.0 billion	✓	✓	✓	Little Nightmares II	PC, Console	

Source: All Top Everything, Company websites.

Note: *Only gaming revenue is relevant. Revenue that a company has generated from other business activities other than gaming is not taken into account in this section.



Key Players of the Gaming Industry in Thailand

- Garena Online Thailand, a subsidiary of Sea Company from Singapore, is a major player in Thailand's gaming industry, with total sales of 7,024 million baht in 2021.
- The company is a leading online game developer and publisher, with the most popular mobile game: Garena's Arena of Valor (ROV) that has surged in popularity in Asia's e-sport market in recent years.
- Followed by Tencent and Bandai Namco that penetrated the market with the second and third largest share in Thailand's gaming industry, with total sales of 1,301 million baht and 528 million baht respectively in 2021.

		Country		Not Color	Company Businesses		Example of Products/Services		
	Company	Country of Origin	FY	Net Sales (Million BHT)	Developer	Publisher	Distributor/ Retailer	Games	Segment
6 Garena	Garena Online (Thailand) Co., Ltd.	Singapore	2021	7,024,197,060.00	Ø	Ø		Arena of Valor	Mobile
Tencent	Tencent (Thailand) Co., Ltd.	China	2021	1,301,383,008.00	€ð	Ø		PUBG	Mobile, PC
BANDAI NAMCO Entertainment	Bandai Namco (Thailand) Co., Ltd.	Japan	2021	527,633,493.00	E	Ø		Naruto x Boruto: Ninja Voltage	Mobile
NADZ	Nadz Project Co., Ltd.	Thai	2021	521,383,492.12			Ø	Distributor of gaming including consoles, gaccessories online a	ames and
ASIASOFT	Asiasoft Corporation Plc.	Thai	2021	519,754,511.00		Ø		Audition Online	PC
EXTREME	Electrics Extreme Co., Ltd.	Thai	2021	392,481,590.92		Ø		Ragnarok Online	РС
YGGDRAZIL GROUP	Yggdrazil Group Plc.	Thai	2021	284,612,775.00	E			HOME Sweet Home Sweet Home	РС
	Gameindy Co., Ltd.	Thai	2021	48,528,927.08	€	Ø		Slave	PC, Mobile
RINGZERO GAME STUDIO	RingZero Game Studio Ltd.	Thai	2021	47,609,767.73	€ 3			Pro Fishing Simulator	Console, PC
netmarble	Netmarble (Thailand) Co., Ltd.	Korea	2021	46,484,289.18		Œ		Ni no Kuni: Cross Worlds	Mobile

Source: Digital Economy Promotion Agency (DEPA), Company websites, BOL

Note: [1] The list of key players are companies that are registered in Thailand with their revenue mainly generated from gaming businesses.

[2] Please note that a company's financial data may include activities other than gaming.



Government Plans To Support the Gaming Industry

Various government agencies are supporting the development of digital industries by implementing numerous plans, majority of which are related to gaming, to strengthen competitiveness and human capital, such as the Thailand's 20-year National Strategy, the Digital Economy Promotional Plan, the Thailand Digital Economy and Society Development Plan.

Plans

Goals

Thailand's 20-year National Strategy (2018-2037) **Thailand's 20-year National Strategy** is a long-term national development plan in which parts that relate to the gaming industry aim to enhance industrial competitiveness by:

o Promoting the service sector through advance innovations and technologies as well as strengthening the skills and capabilities of small businesses.

To push the gaming industry to attain the level of **a Regional Hub**

Digital Economy Promotion Plan (2018-2022) The **Digital Economy Promotion Agency (DEPA)** established a Digital Economy Promotion plan, aiming to drive digital industries, where the gaming industry is one of the top prioritized sub-sector for development.

Strategic Plan

- 1. Build manpower in the digital era
- 2. Transform the economy towards digital development
- 3. Drive the community towards a digital society
- 4. Development of a digital innovation ecosystem



Increase the proportion of digital industry value to GDP to 20%



10% increase in market concentration rate* in digital applications

Thailand Digital Economy and Society Development Plan (2018-2037) The Office of National Digital Economy and Society Commission (ONDE) established a Thailand Digital Economy and Society Development Plan, aiming to maximize the use of digital technology and all its potential to drive national socio-economic development.

Strategy

- 1. Develop countrywide high-efficiency digital infrastructure
- 2. Drive the economy with digital technology
- 3. Build an equitable and inclusive society through digital technology
- 4. Transform the public sector into a digital government
- 5. Develop workforce for the age of digital economy and society
- 6. Build trust and confidence in the use of digital technology



✓ Enhancing Thailand's competitiveness in the global arena



Creating equal opportunities in society



 Developing human capital towards the digital age



 Reforming the paradigm of operations and services of the public sector.

Source: Digital Economy Promotion Agency (DEPA), Office of National Digital Economy and Society Commission (ONDE)

Note: *Market concentration rate refers to the density of companies with applied digital in their operations and the amount of digital use in their business activities such as marketing, production as well as the utilisation of innovation and technology of people within the society.



Investment Incentives: DEPA and BOI Incentives

- The government supports the development of Thailand's gaming industry by allowing gaming companies who are interested in investing in Thailand to apply for investment incentives from the Digital Economy Promotion Agency (DEPA), and the Board of Investment (BOI).
- These incentives not only provide tax exemption for gaming companies but also provides funding in terma of grants, convertible* and matching funds.

DEPA	Promot	ional f	ackages

DEPA Packages		Conditions	Investment Promotion	Project Duration
Digital Startup Fund	For gaming companies who want to start business	\$2 For starting business and prototype development (For juristic or company registration not more than 3 year)	Up to 1,000,000 THB Grant + Convertible 30:70	Within 3 years
	in Thailand's gaming industry	\$3 As bridge financing to support growth (For company registration not more than 5 year)	Up to 5,000,000 THB Convertible	Within 3 years
Digital For gaming companies who want to develop or		M1 For developing and building manpower in digital innovation skills at career level	Up to <mark>100,000</mark> THB Grant + Matching Fund	Within 1 year
Manpower Fund	train their employees in gaming development skill.	M2 For developing and building manpower in digital innovation skills at executive level	Up to <mark>300,000</mark> THB Grant	Within 1 year
Digital Event and Marketing Fund	For gaming companies who want to organize marketing activities or other promotional events.	E For organizing promoting activities, business matching, contests, raising awareness about industrial development and digital innovation	Up to 5,000,000 THB Matching Fund 60:40	Within 1 year
Digital Infrastructure Fund	For gaming companies constructing digital content platforms.	I1 Developing digital infrastructure for private investment	Up to 50,000,000 THB Matching Fund 50:50	Within 3 year
		I2 Developing digital infrastructure for government and public investment	Up to 200,000,000 THB Convertible	Within 5 year

Note: *Convertible mentioned in this section refers to the maximum supporting fund according to the conditions set by each packages.

BOI Incentives

Activities	CIT Exemption	Incentives:				
Development of Software, Digital Platforms, or Digital Content	8 Years	 ✓ Exemption of import duties on machinery ✓ Exemption of import duties on raw materials used in R&D ✓ Exemption of import duties on raw materials used in production for export ✓ Non-tax Incentives** 				

Note: **Non-tax incentives: permission for foreign nationals to enter the Kingdom for the purpose of studying investment opportunities, permission to bring into the Kingdom skilled workers and experts to work in investment promoted activities, permission to own land, permission to take out or remit money abroad in foreign currency

Source: Digital Economy Promotion Agency (DEPA), Board of Investment (BOI)



Challenges, Future Trends and Opportunities

Challenges



Shortage of specialists and skilled human resource

- According to DEPA, Thailand still has a low number of specialists and skilled human resource, especially game development and publishing.
- This causes an obstacle for industrial growth and competitiveness at an international level, as can be seen from how Thai consumer mostly consume games and contents from international firms (98% of total market value).



Lack of funding and government support

- Thai gaming companies are struggling to access funding and government support, as both the private and public sectors are still lack depth in understanding this industry and have negative attitudes towards gaming.
- This cause difficulties for Thai game developers and publishers to produce quality games and content that can compete at an international level.



Lack of supporting infrastructure for Thailand's gaming industry

- Thailand still lack of supporting infrastructure for this industry which causes the difficulties for investor to make decisions for their investment, for instance
 - o Unstructured management of policies and regulations.
 - Insufficient and difficult to access the database for preservation and archiving.



Future Trends



Opportunities

Digital innovation and technological advancement in game development

- Cloud Gaming is a game streaming service that allows players to access
 games without having to download the game into the device. As games
 are remotely processed in data centers, users are not required to have
 high spec hardware, but only need good internet connectivity.
- **Blockchain technology** allows players to trade in-game items using cryptocurrency or NFTs that can be exchanged for money.
- Metaverse is a digital-reality space that combines VR, AR and other digital technologies where users are replaced by digital avatars that can interact with other users and the environment virtually as to enhance user experience.

More viable new business model: Play-to-Earn

• **Play-to-Earn business model** allows players to earn money in cryptocurrency or NFTs by playing games.

Investment opportunities

- ✓ A joint venture or collaboration with international gaming companies.
- ✓ More investment in digital technologies related to game creation.
- ✓ Establish more educational institutions or training courses related to gaming or digital content.
- ✓ More collaboration with marketing agencies to promote the industry.
- ✓ Organising more gaming events for business matching.

Advertisement opportunities

- ✓ More opportunities for advertising brands through gaming events, media or e-sports competitions.
- ✓ More opportunities for co-branding with game developers or publishers to sell virtual products or in-app items.



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