|            |            | 5            |              |              |
|------------|------------|--------------|--------------|--------------|
| Movies     | TV Shows   | Music        | iTunes Radio | Computers    |
| NETFLIX    | huluplus   | HBO MARK     | 6            |              |
| Netflix    | Hulu Plus  | HBO NOW      | Beats Music  | Settings     |
| You Tube   | 120        |              | WATCH<br>Obc | abc NEWS     |
| YouTube    | 120 SPORTS | A&E          | ABC          | ABC News     |
|            | On         | Ó            | Bloomberg    | ●CBS<br>NEWS |
| ACC Sports | AOL On     | Apple Events | Bloomberg    | CBS News     |

### **NBTC OTT Competition Regulation**

Public Conference, 11 January 2017





### Content

1

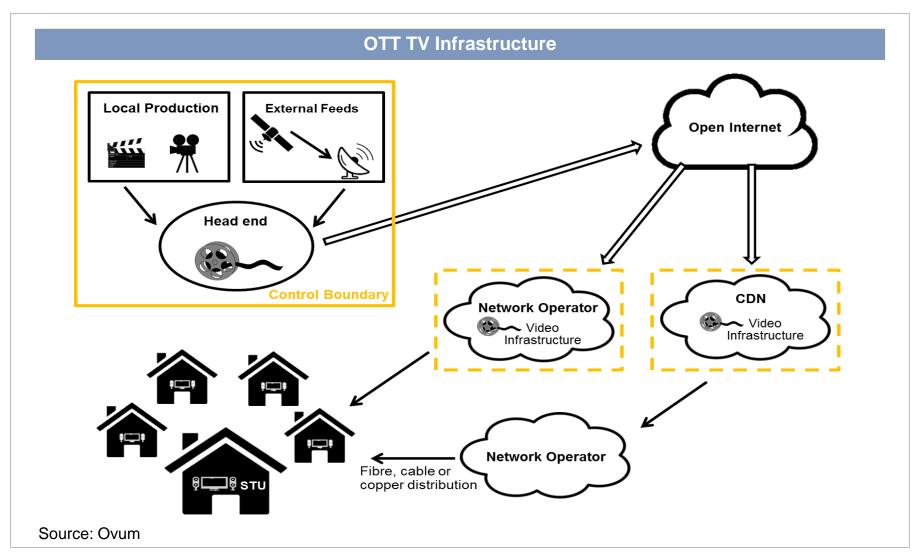
#### Introduction of OTT TV

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Unlike other broadcast network infrastructure, OTT TV provider has its control boundary only at the studio. Transmission links to homes are provided by 3rd party.





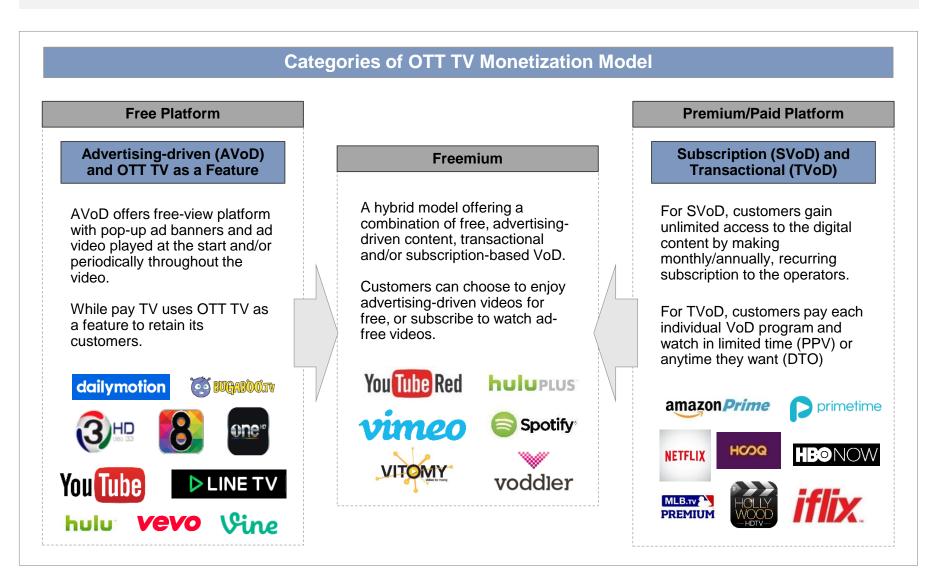
OTT TV Providers, serving mass, niched or UGC content, can be categorized into 6 groups according to their origins whether they are relevant to the existing players.

|   | OTT TV Drovider   |  | Contont  |
|---|---|--|--|
|   | OTT TV Provider   |  | Content  |
| Independent OTT TV<br>Provider  | OTT TV from Content<br>Producer   | OTT TV from Free TV<br>Provider  | 1) Mass Content  |
| Newly established OTT<br>TV providers who are<br>not related to any<br>existing players | Established by movie or<br>TV producers. They<br>have a valuable content<br>to start with | Established by Free TV<br>broadcasters to be an<br>alternative distribution<br>channel | <ul> <li>Content which is in the interest of the</li> </ul>  |
| hopster.  | HEONOW MLB.TV   |  | <ul> <li>public or reflects the mainstream culture</li> <li>Available in the dominant language or<br/>foreign languages with subtitle</li> <li>2) Nicho Contont</li> </ul> |
| amazon <i>Prime</i> iffix   |   | PLUS 7   | 2) Niche Content   |
| <b>OTT TV from Pay TV</b><br><b>Provider</b><br>Established by Pay TV                   | OTT TV from Telco<br>Providers<br>Established by Telco                                    | OTT TV from<br>Collaborated<br>Providers<br>Established by a                           |  |
| providers to provide as   | providers who are   | collaboration between  | <ul> <li>Content produced to serve a specific<br/>group of people</li> </ul>   |
| existing satellite, cable   | benefit from utilizing their own network and  | similar or different types<br>of existing providers                                    | <ul> <li>E.g. sports, cartoons and cooking shows</li> </ul>  |
| and IPTV customers.   | subscriber base.  |  | 3) User Generated Content  |
| Fios Sling  |   | POOQ HODA Stan.  | <ul> <li>Content produced by a single or group<br/>of independent users in the video<br/>sharing platforms</li> </ul>  |



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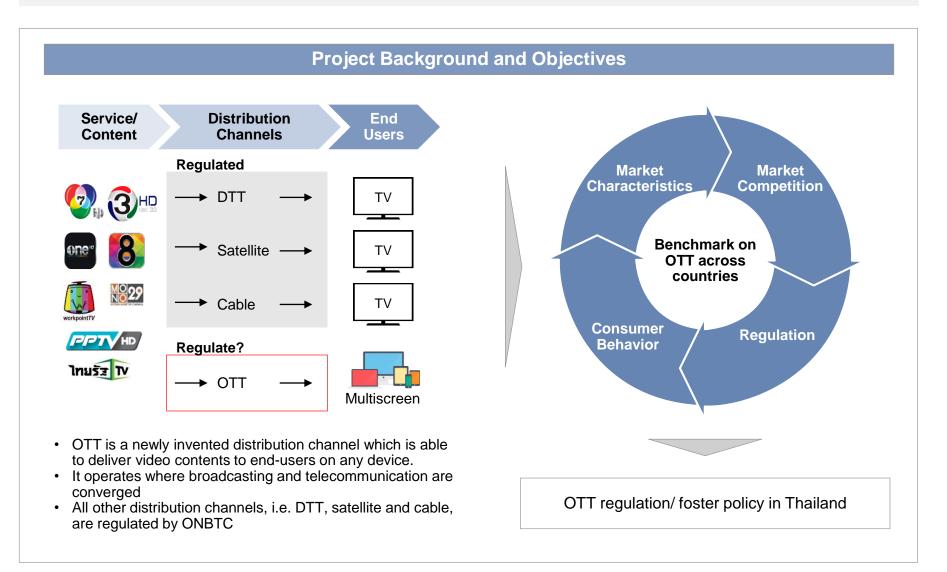
OTT TV operators monetize in 3 main models advertising, freemium (e.g. in purchase, additional features) and subscription/transaction-based.





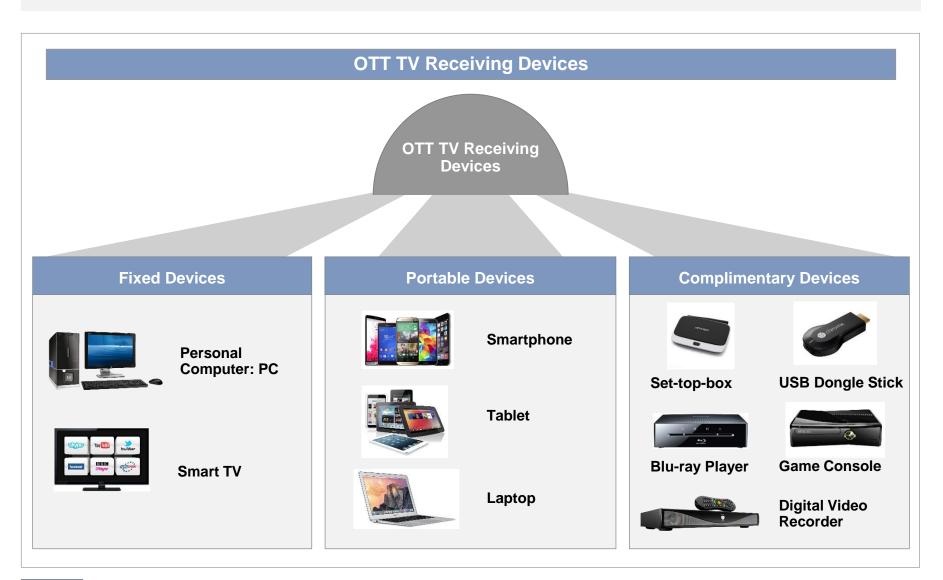
- 5 -

The newly emerged OTT TV changes consumer behavior and industry environment. NBTC must understand impact of it and conclude whether to intervene/ foster OTT TV.





There are 3 types of OTT TV receiving devices which include fixed and complimentary devices for consuming OTT TV at home and portable devices for on-the-go activities.





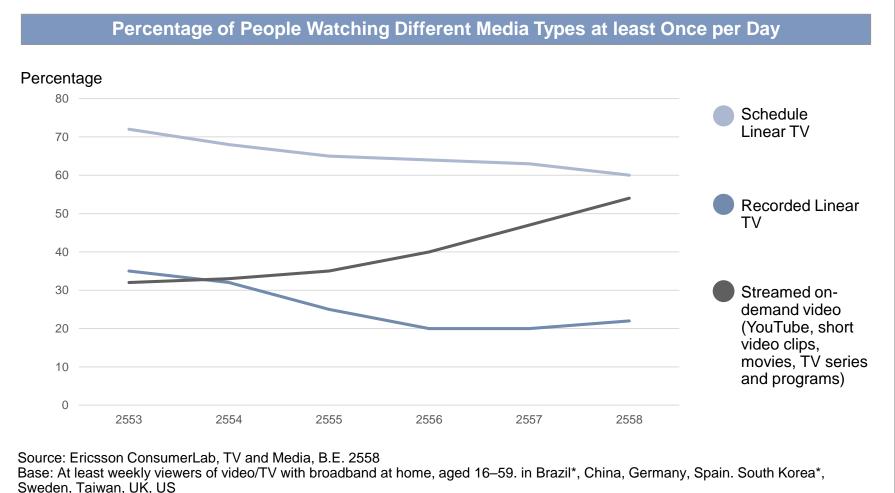


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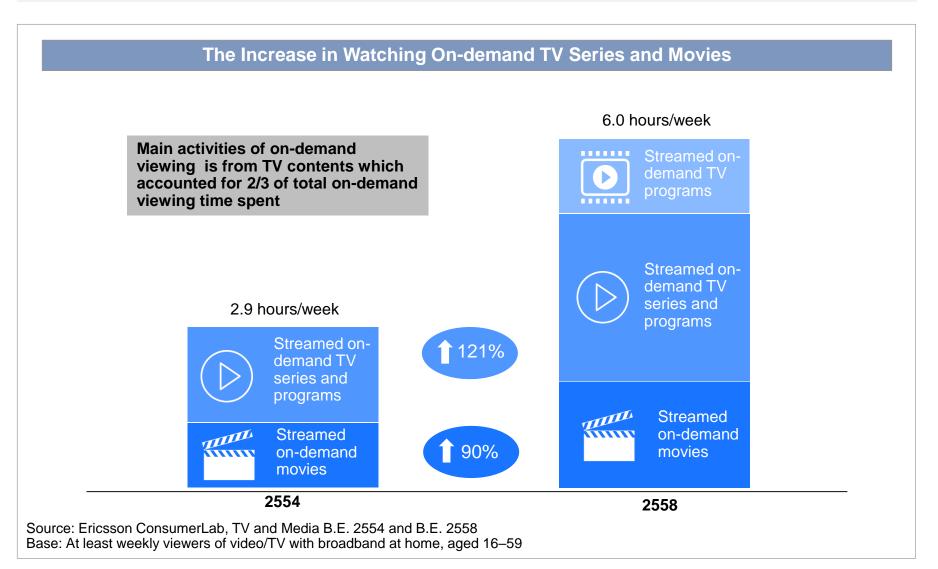
# Consumption of on-demand is dramatically increased since B.E. 2553. The recorded linear TV consumption drops till B.E. 2556 and remain its position since then.



\*excluded in B.E.2553 figure

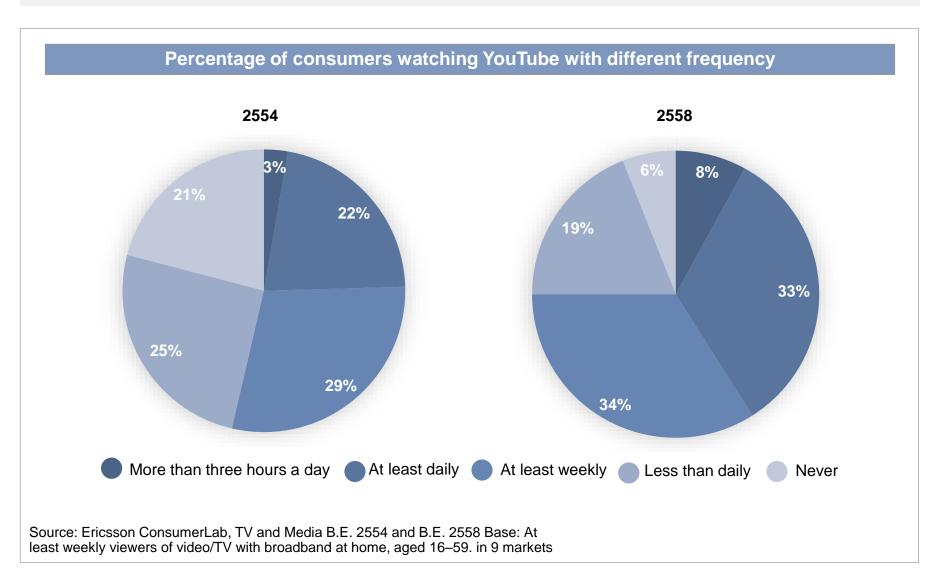


Over the past 5 years, global consumption of on-demand content significantly increased. Main driver is the contents from TV (Series & Programs).



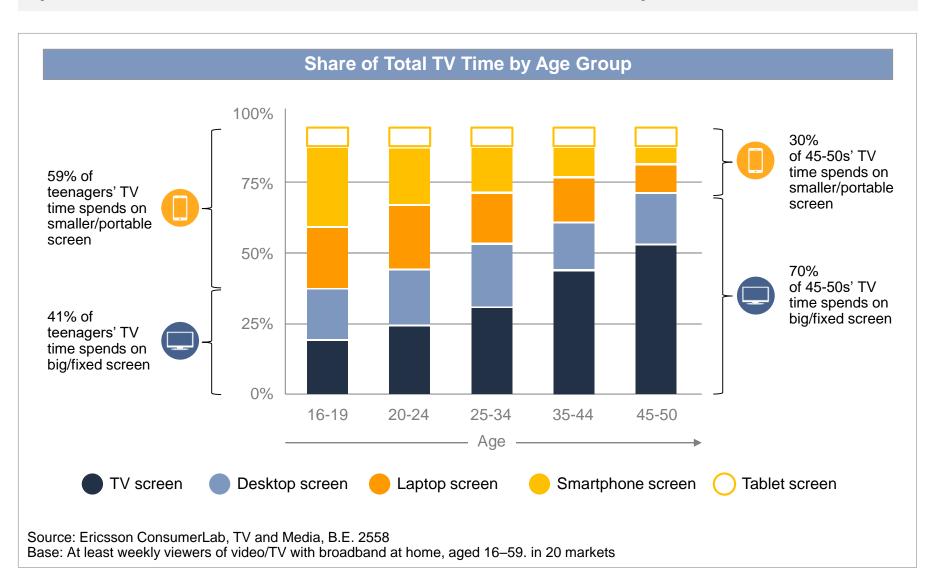


## YouTube is a UGC sharing platform. As you can see the content is becoming more important. There are only 6% of people who have never watch YouTube in B.E. 2558



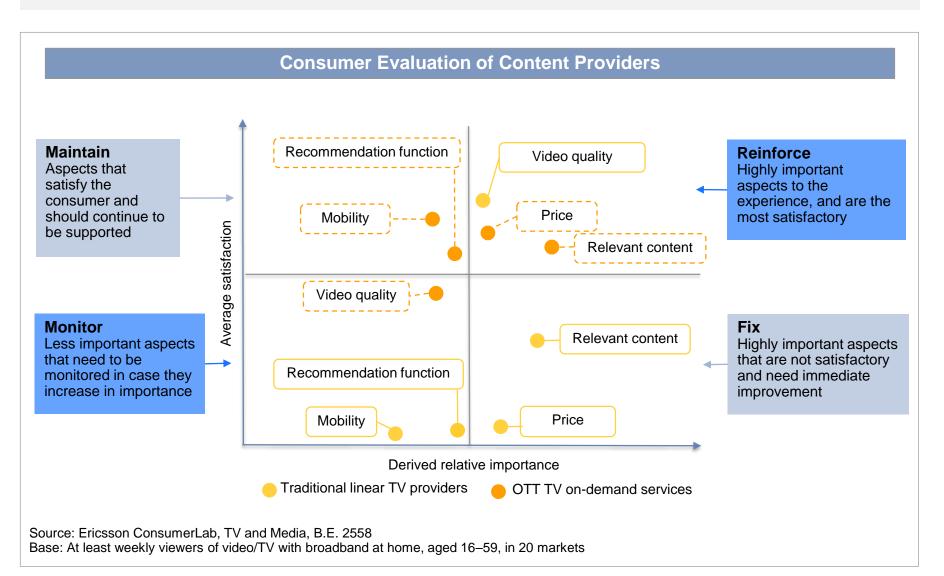


Size of screen preferred is possitively correlated with consumer's age. Teenagers spend most of their TV time on smaller screen, while 40-50s preferred TV screens.





OTT TV are scored very high in its price, content, mobility and recommendation function. While linear pay TV needs to improve everything except its video quality.





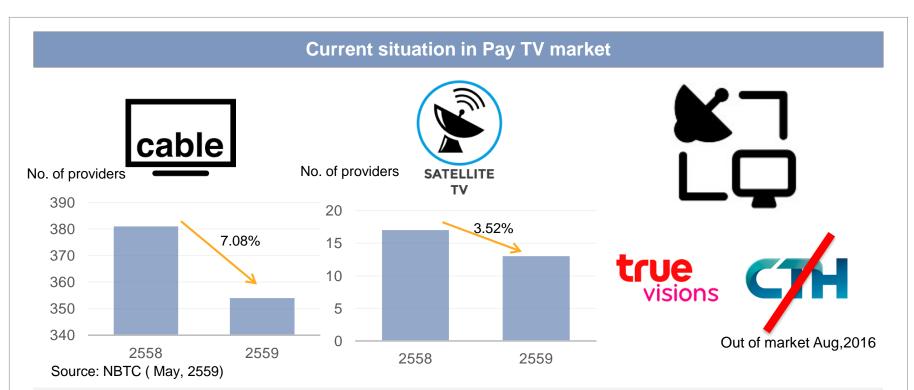
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Number of players in Pay TV market has been declined due to regulation, bottleneck infrastructure, high cost of acquiring contents and competition with other platforms



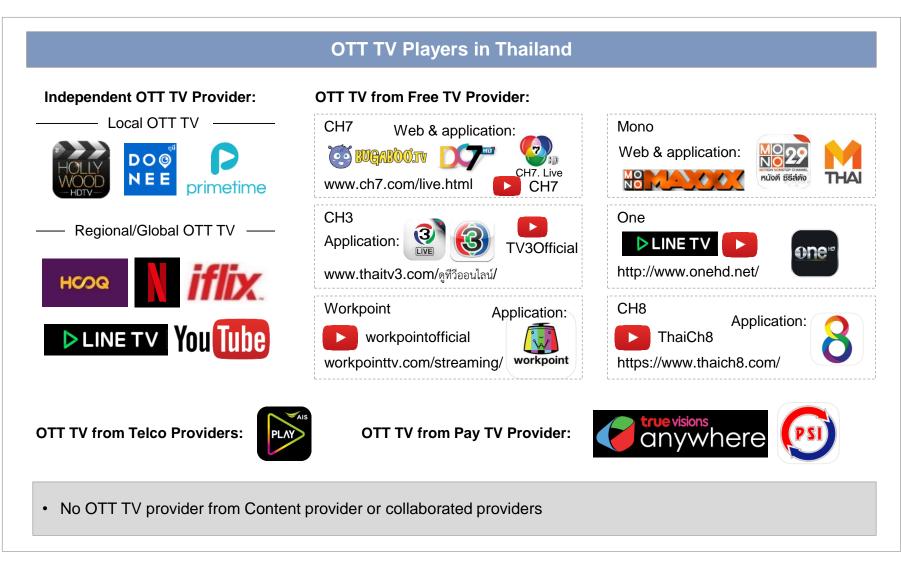
#### The exit from the market caused by many factors;

-Uncertainty of broadcasting regulation

- Must carry regulation: cable and satellite TV providers must pack all 36 terrestrial-based digital channels together.
- Rearrange the digital-TV channel numbers on cable and satellite in an attempt to set a single standard across all platforms.
- Bottleneck Infrastructure in particular in apartment and condominium.
- High cost of acquiring contents in order to secure right to broadcast and attract more customers i.e. sport and live events.
- Competition with among Pay TV providers and other platforms .

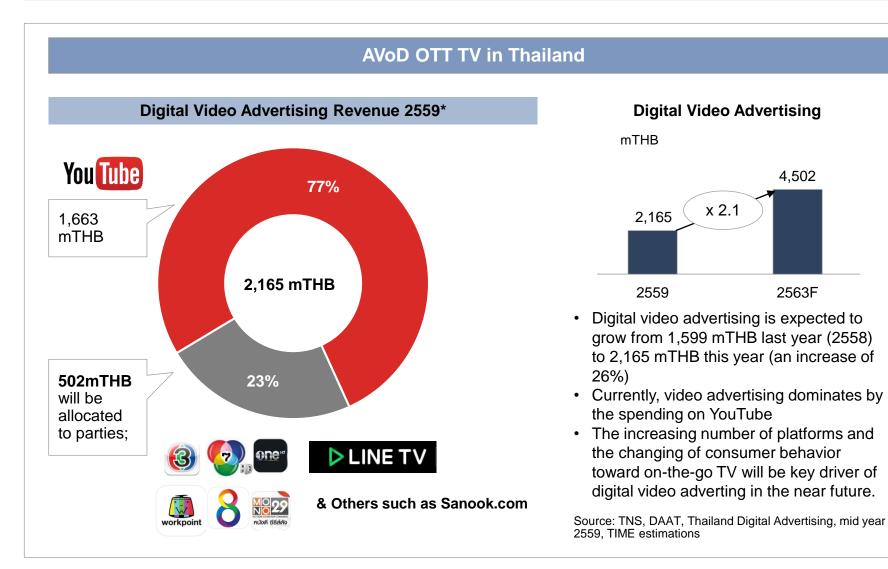


Three types of OTT TV players can be found in Thai market. Majority are the independent OTT TV provider. Some get revenue from SVoD, others get from AVoD.



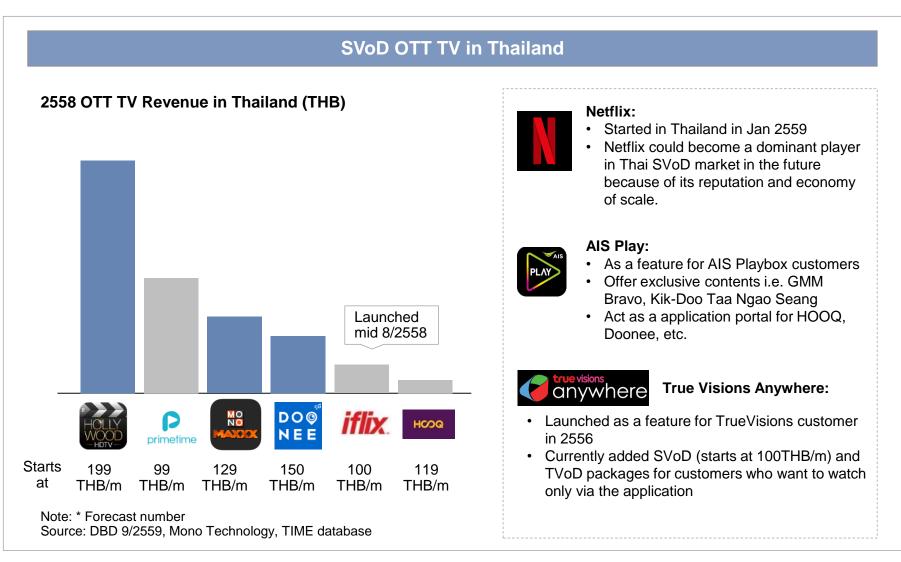


YouTube earns highest market share in AVoD OTT TV market. Digital video ad. continuing grows aided by cheaper devices and burgeoning telecom infrastructure.



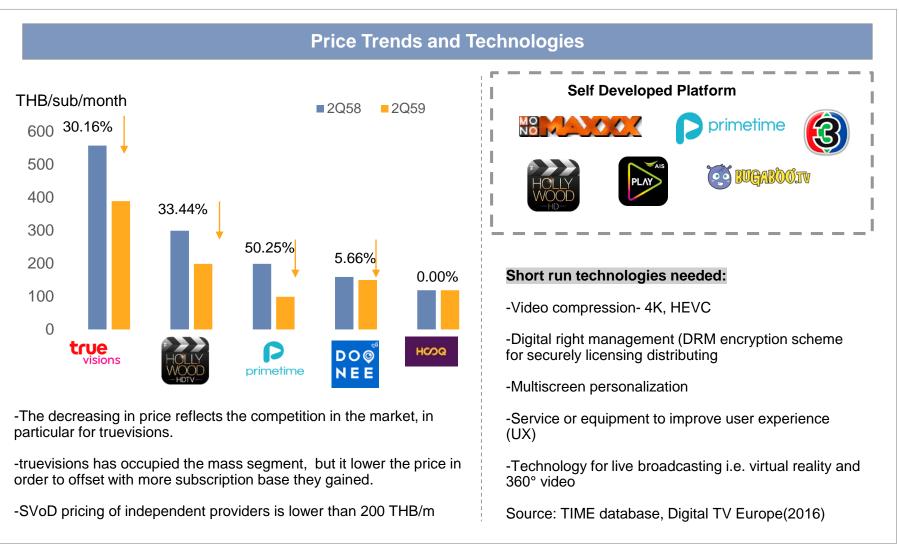


Hollywood HD is the very first SVoD provider in the market and has highest revenue among independent providers. Price offering ranges from 99 to199 THB/month.



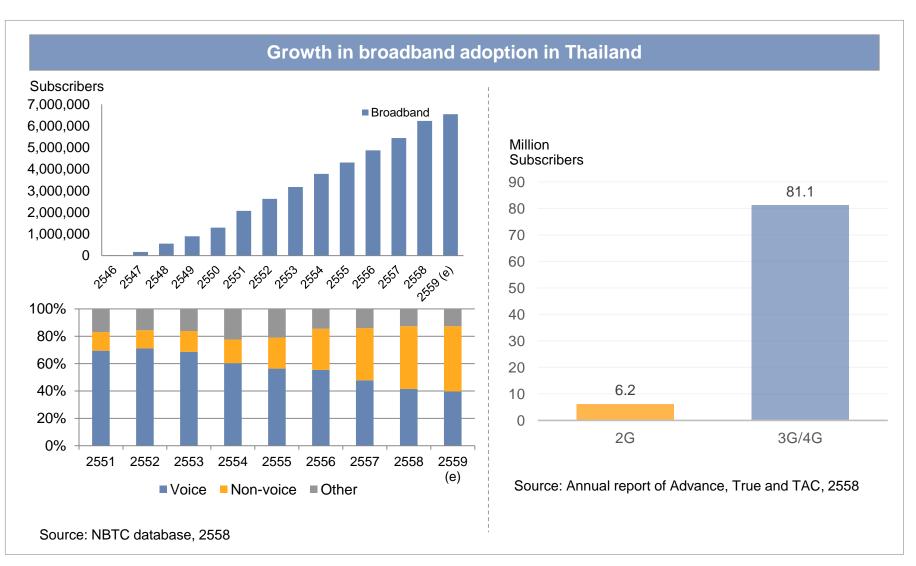


A declining trend of SVoD pricing is presented YoY. Addition technologies like live broadcasting, DRM and compressor for improving service will be needed.





Broadband is important infrastructure for stimulating OTT TV service. Mobile data consumption increased significantly. Migration of 2G subscribers is a major driver.





### Content

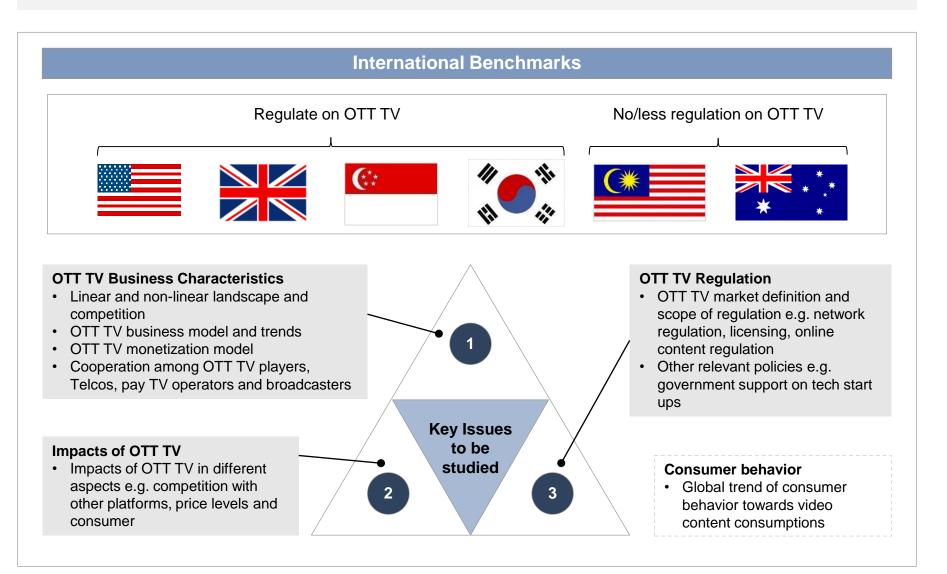
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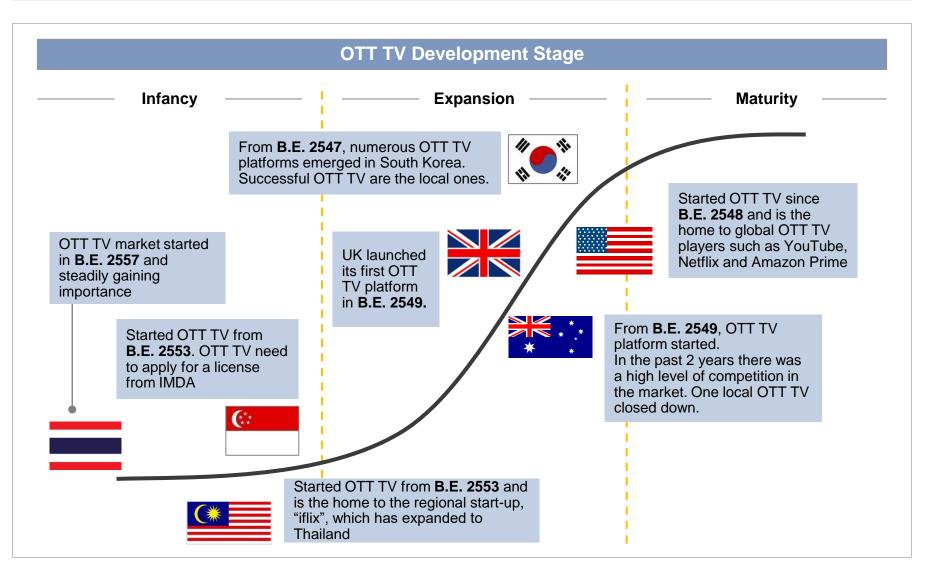


We chose 6 countries to be benchmarks in areas of OTT TV business characteristics, impacts and regulations.



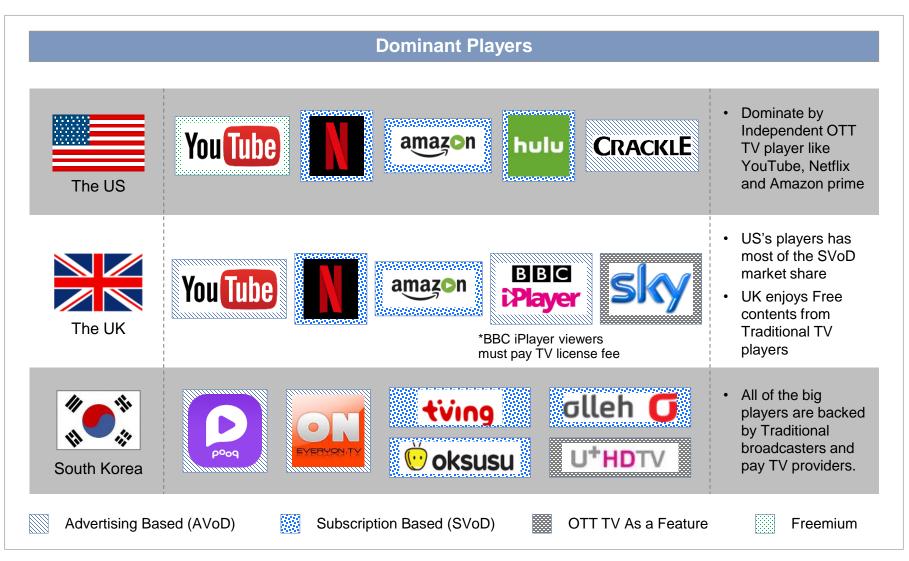


OTT TV market in Thailand is in an early stage where we can learn about the market competitions, regulations, and effects of OTT TV from more advanced markets.





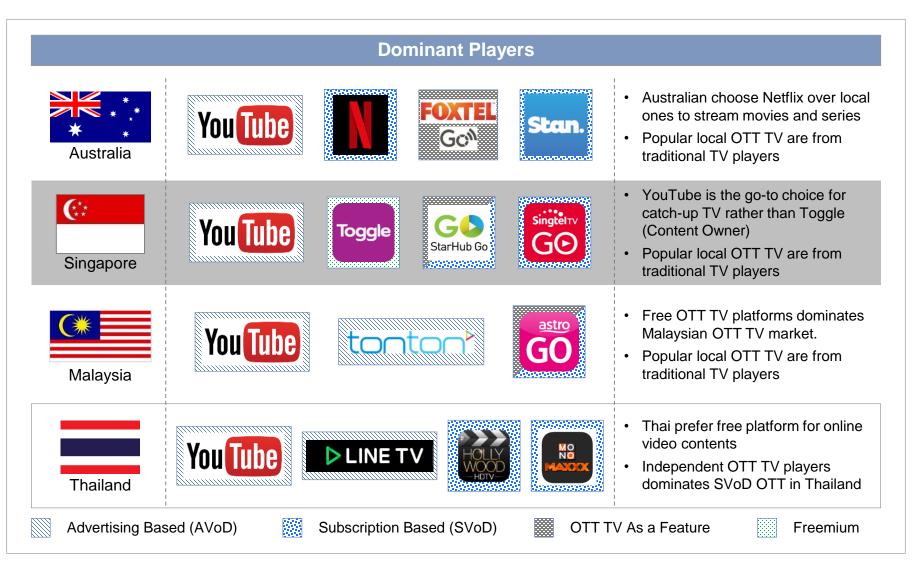
Big players in US and UK are global independent OTT TVs, with a few TV incumbents' platforms. While in S. Korea all the major ones are the local incumbents' OTT TVs.







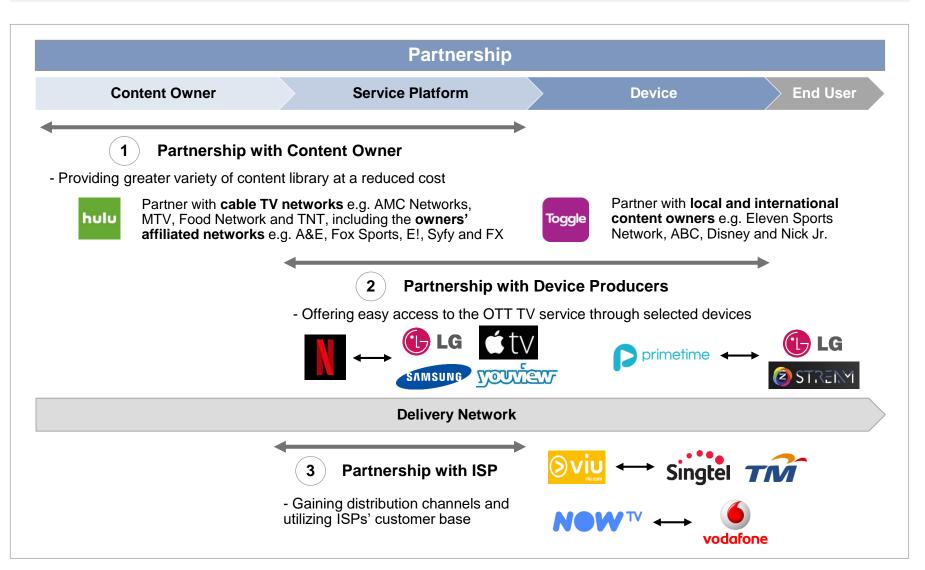
Free platforms, esp. YouTube, dominate Asia-Pacific OTT TV markets. The popular local OTT TVs in these countries owned by the traditional TV players.







There are 3 forms of partnership created by OTT TV providers: content partnership, device partnership and distribution partnership. The last form is the most popular.



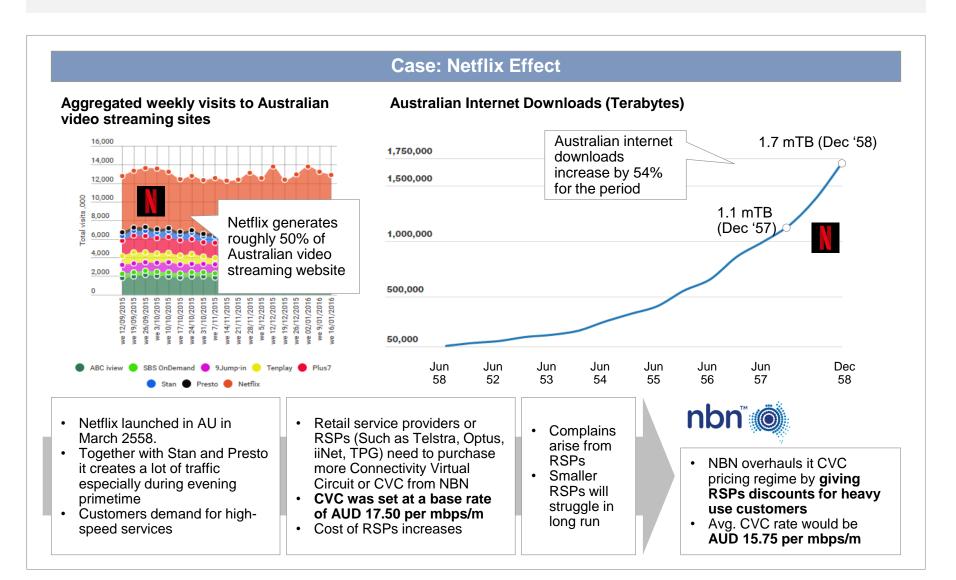


OTT TV affects each market in different ways. The US is the only country that negatively affected by OTT TV. Other markets don't show negative sign yet.

| Effect of  | f OTT TV  |
|--|---|
| Infancy Phase –         Newly Adopt OTT         TV Market         • Pay TV: Use OTT TV as a customer retention tool  | <ul> <li>Expansion Phase –<br/>Convergence<br/>Operators Dominate</li> <li>Pay TV: Subscriptions and Ad-revenue increase</li> </ul>   |
| <ul> <li>FTA: Expand its distribution Channels</li> <li>Telco: Partner with OTT TV</li> </ul>  | <ul> <li>FTA: Expand its distribution Channels</li> <li>Telco: Complementary to OTT TV</li> </ul>   |
| Expansion Phase –<br>Independent OTT<br>TV Invasion  | Expansion Phase –<br>Complementary<br>Services  |
| <ul> <li>Pay TV: Cord-cutting effect, Use OTT TV as a<br/>customer retention tool</li> </ul>   | Pay TV: Use OTT TV as a customer retention tool, and creation of new revenue streams  |
| <ul> <li>FTA: Launch its OTT TV service to cope with changing consumer behavior</li> <li>Telco: Traffic increased so it put data/ speed cap on consumer usage</li> </ul> | <ul> <li>FTA: Expand its distribution Channels</li> <li>Telco: In Australia, Traffic dramatically increased, result in overhauling of wholesale broadband prices</li> </ul> |

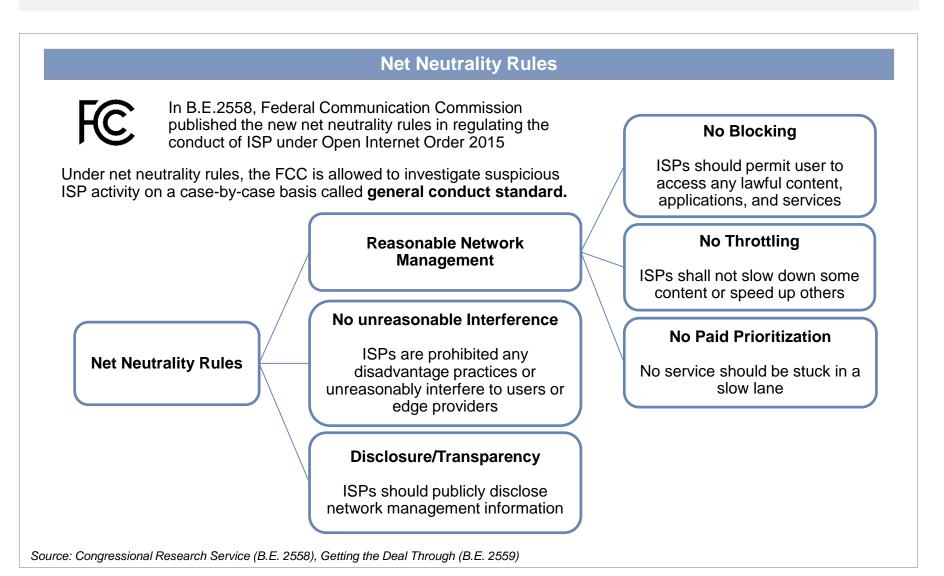


Higher traffics caused by Netflix have been raising RSPs costs. NBN which is the supplier for RSPs restructures its CVC rates and gives discounts for heavy users.



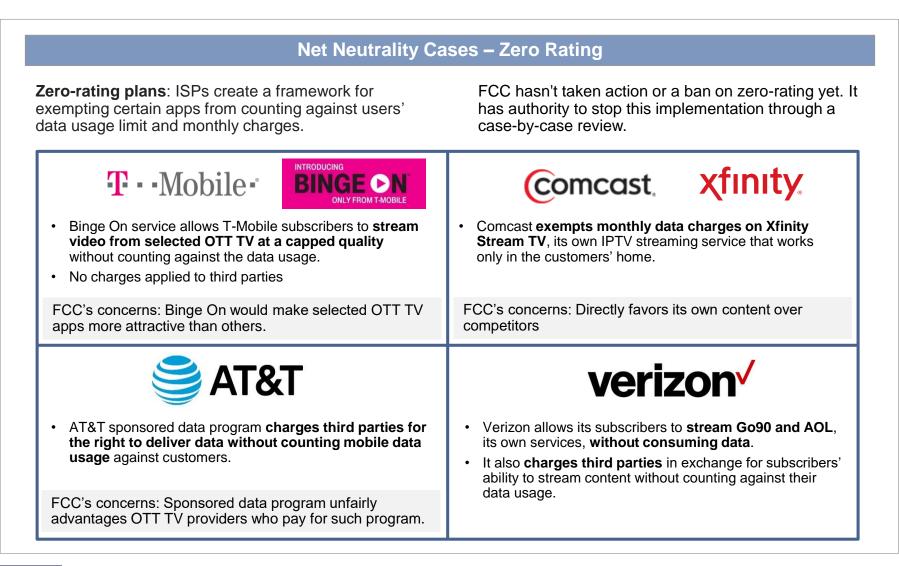


FCC regulate ISPs as an open platform such that they cannot use their position in the marketplace to unfairly treat content providers and users, and intervene competition.



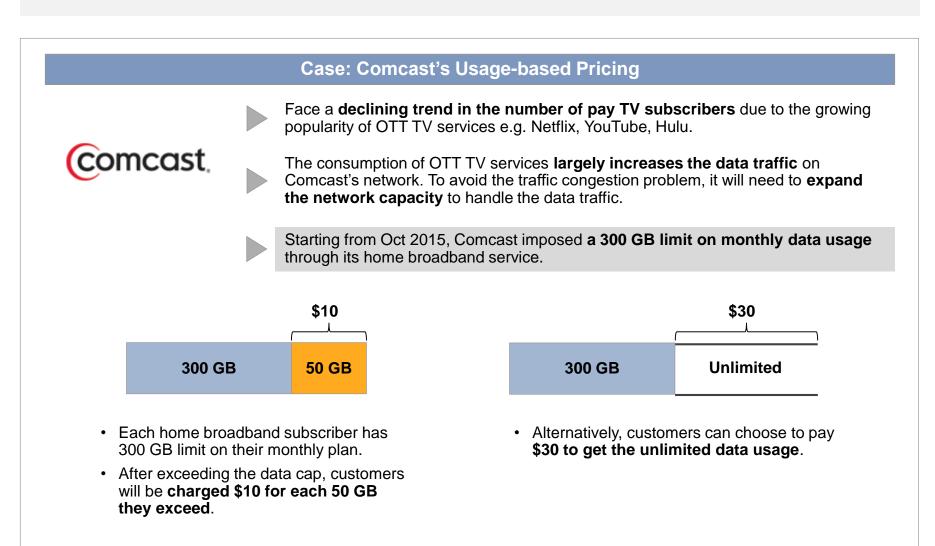


FCC now have concerns on zero rating plan that might violate net neutrality rules on throttling and providing unfairly advantages to incumbent content providers.





As the OTT TV service like Netflix becomes popular, it causes cord-cutting and largely increases the data traffic on ISP network.



Source: Cinemablend and Bloomberg (B.E. 2558), Comcast (B.E. 2558)



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There are many dimensions of OTT TV content regulation. Every countries regulates contents to some extent.

| 1                                       | Content Regulation on OTT TV  |                       |                       |                       |                       |                       |                       |
|---|-------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|   |                               |                       | C:                    | * *                   |                       |                       |                       |
| Prohibit<br>Content                     | Computer Act                  | $\checkmark$          | $\checkmark$          | $\checkmark$          | $\checkmark$          | $\checkmark$          | General rules applied |
| Online content rating                   | None                          | $\checkmark$          | $\checkmark$          | $\checkmark$          | $\checkmark$          | $\checkmark$          | $\checkmark$          |
| Youth<br>Protection                     | None                          | None                  | None                  | None                  | $\checkmark$          | $\checkmark$          | $\checkmark$          |
| Local Content<br>Quota                  | None                          | None                  | None                  | None                  | None -<br>Considering | $\checkmark$          | None                  |
| Advertising<br>Regulation               | Consumer<br>protection<br>Act | General rules applied |
| Disables rights<br>to access<br>Content | None                          | None                  | None                  | None                  | $\checkmark$          | None                  | None                  |



OTT TV licensing is a tool for NRA. It helps alleviate regulatory gap between traditional TV and OTT TV players. It comes with costs of budget and barrier to market entry.

| 2          | OTT T  | / Licensing   |  |   |                                    |
|------------|--|---|--|---|------------------------------------|
| <b>(</b> ) | <ul> <li>OTT TV providers are "Internet Content<br/>Providers". They are subject to<br/>Broadcasting (Class License) Notification<br/>(N1) and need to pay fee to IMDA</li> <li>OTT TV who broadcast in or from<br/>Singapore need to apply for the licence</li> </ul>   | Benchmark<br>Countries  | none   | Considering                                   | Class license                      |
|            | <ul> <li>OTT TV in South Korea refers to "Internet<br/>multimedia broadcast service providers"<br/>and "internet multimedia broadcast content<br/>providers" which need to obtain permission<br/>from MSIP.</li> </ul>   | * *   | Notifications  | Service Specific                              | none                               |
|            | <ul> <li>OTT TV providers are considered as "On Demand Program Service" providers</li> <li>They need to give notifications to Ofcom for intention to provide/ make significant change/ cease an ODPS</li> <li>The rules apply to OTT TV who has head office and/or decision making is in EU member states</li> </ul> | the co<br>• Easie<br>• Leve<br>OTT<br>Con: • High<br>• May<br>OTT | ountries<br>er to impose regu<br>led playing field<br>TV<br>regulatory cos<br>obstruct OTT T | <b>V providers</b> to es<br>cause OTT TV is a | ded<br>nal TV and<br>tablish their |



Some NRAs adopt Net Neutrality Rules on ISPs such that they treat all traffic in the open internet fairly. This promotes competition among OTT TVs.

| 3  |   | Net                           | Neutrality                 |                                    |  |              |
|--|---|-------------------------------|----------------------------|------------------------------------|--|--------------|
| o  | bjectives and Princip   | al                            |                            |                                    |  | (::          |
|  | shall have the <b>right to</b><br>formation and conte                               |                               | Benchmark<br>Countries     | none                               | none   | $\checkmark$ |
| <ul><li>equally by clearly define</li><li>exceptions</li></ul> | equally by service providers, subject to strict and clearly defined public interest |                               | none                       |                                    |  |              |
| No Blocking  | No Throttling   | No Paid<br>Prioritization     | and c                      | content in the o                   | <b>cess</b> and distribu<br><b>pen internet free</b><br>mong OTT TV se | ely          |
| Fair comp<br>no unreas<br>interfer                             | sonable tr  | arency on<br>affic<br>Igement | infras<br>incen<br>• ISP o | structure expans<br>tive to invest | bear costs of ne<br>sion and may not<br>ponsible for qua<br>services   | have the     |



There are no specific supports for OTT TV industries from any Government. Yet, OTT TV can benefit from support on good content creation, startups and infrastructure.

| 4 Relevant Gover   | nment Supports  |
|--|---|
| No Specific Supports for 0                                       | OTT TV Services Providers                                   |
| Good/ Local Contents   | Infrastructure  |
| Funding:   | National Broadband:   |
|  |   |
| Content Support Center:  |   |
| Fee Discount incentives when broadcasters broadcast Good Content | 5G Roll Out:  |
| Startups/ Innovation Benefits                                    |   |
|  | Support National Broadband<br>Infrastructure by DE Ministry |





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Good and creative local content support fund would be positive impacts to operators and consumers and empower local content to compete with international content

| Good/ Local Con  | tent Supports   |
|--|---|
| Justification  | Impact  |
| To support and stimulate good and creative local<br>content producers in Thailand<br>To empower local content to compete with international<br>content<br>To diversify media content in Thailand to meet<br>consumers' demands | <ul> <li>Operators:</li> <li>Operator would purchase local content<br/>in lower price than international<br/>content</li> <li>Creative and interesting content would<br/>attract more subscribers and more<br/>revenue</li> </ul> |
|  | <ul> <li>Consumers:</li> <li>Diversity of content would meet needs<br/>and wants of consumers</li> <li>Local people would be interested and<br/>easily access local content</li> </ul>  |
| 塗 กทปส   | <ul> <li>Regulator:</li> <li>Regulator has to consider and evaluate good and creative content</li> <li>After funding support content, regulator have to follow up feed back</li> </ul>  |
| <ul> <li>Content Support Fund in Thailand should be imposed<br/>in the early stage of OTT TV</li> </ul>  | of producers and consumers  |

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OTT TV registration in early stage will give basic info to public by not creating high barrier to entry. Full license afterward will level regulatory burden to all TV provider.

| Applying Licensing Framework   |  |  |  |
|--|--|--|--|
| Justification  | Impact   |  |  |
| <ul> <li>Registration of OTT TV players to ONBTC in early stage: 1) to collect information such as the company names, owners and the office address to ensure the existence of the company and 2) to give provision of information to the customers</li> <li>Apply same licensing framework as traditional TV to OTT TV providers: apply to OTT TV when the market is</li> </ul> | <ul> <li>Operators:</li> <li>Relatively less burden to OTT TV operator to register the service to ONBTC in early stage</li> <li>Subjected to further regulation by the NBTC</li> </ul> |  |  |
| ready to leveled playing field to traditional TV operators.  | <ul> <li>Consumers:</li> <li>Notice basic information of OTT TV services they are using</li> <li>Have contact/address of OTT TV services and able to provide</li> </ul>                |  |  |
| In Early Stage of OTT TV market. NBTC should limit intervention to the market because it can create barrier to entry.  | feedbacks or complains to the service providers.   |  |  |
| ONBTC should rather <b>collect only necessary</b><br><b>information</b> from OTT TV players which provide service<br><b>in or from Thailand</b> .  | <ul> <li>Regulator:</li> <li>Has to announce "Notification" to public regarding the implementation of OTT TV license</li> <li>Has regulatory burden to regularly</li> </ul>            |  |  |
| When OTT TV market is able to compete with other TV platforms, it should be under same licensing framework with other.   | <b>NANK</b> . Investigate OTT TV market and bill the licensees for license fee   |  |  |



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Content regulation can benefits consumers which may come with costs to OTT TV providers. Local content quotas will help Thai OTT TV & content production industry.

| 3 Imposing Content Regulation   |  |  |  |  |
|---|--|--|--|--|
| Justification   | Impact   |  |  |  |
| <ul> <li>Every benchmark government regulates OTT TV content to a certain extent.</li> <li>Online content rating will be on the same rules as traditional TV content rating rules and is a foundation to youth protection policy.</li> <li>Local content quotas will support local content production. Thus, will create jobs for Thai people.</li> <li>Disables rights to access content will promote equal rights to Thai people</li> </ul> | <ul> <li>Operators:</li> <li>May costs OTT TV provider to comply<br/>to NBTC rules especially content<br/>rating and disable rights rules.</li> <li>Local content quotas will profit the<br/>OTT TV player who own content<br/>production in Thailand</li> <li>ODESUMENTE</li> <li>Noticed on content ratings</li> <li>Youth are protected from harmful<br/>contents</li> <li>Disable rights to access contents are<br/>secured</li> </ul> |  |  |  |
| <ul> <li>Implementation</li> <li>Need to register or give license to OTT TV providers before imposing specific content regulation to OTT TV contents</li> <li>This policy should impose after OTT TV early stage in order to avoid creating barrier to entry of the market.</li> </ul>  | <ul> <li>Regulator:</li> <li>Has to announce "Notification" to public regarding the implementation of content regulation on OTT TV licensees</li> <li>Has regulatory burden to regularly investigate and monitor OTT TV contents</li> </ul>  |  |  |  |



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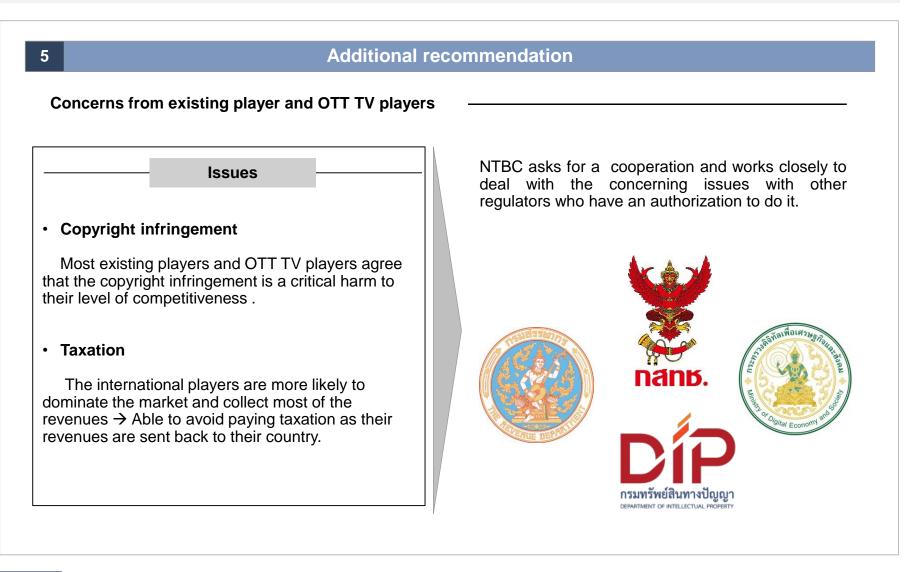
Once the network infrastructure has enough coverage and the broadband market is competitive, the NBTC should consider issuing the net neutrality as its ex-pose tool.

| Regulate ISP via   | Net Neutrality  |
|--|---|
| Justification  | Impact  |
| Once the OTT TV market reaches <b>the growth stage</b> , it<br>inevitably leads to the substantial increase in the data<br>traffic on telco and ISP's network.<br>Telco and ISP's congest network management will start<br>to <b>severely block or throttle the legal OTT TV and</b><br><b>other video services</b> such that it greatly affects<br>consumers and content service providers.   | <ul> <li>Operators:</li> <li>Burden on the telco and ISP to expand<br/>the network capacity.</li> <li>OTT TV and other service providers<br/>have a high-quality internet to deliver<br/>their services at their best effort.</li> </ul>                          |
| Telco and ISP might unfairly treat the traffic of other OTT<br>TV services, while <b>privilege its own OTT TV service.</b>   | <ul> <li>Consumers:</li> <li>Ability to access the lawful content and services on the internet without any unreasonable interference from telco and ISP.</li> </ul>   |
| Finalize on the co-regulation model between broadcast<br>and telco departments of the NBTC as net neutrality is a<br>cross-sector issue.<br>Issue the NBTC Notification regarding the net neutrality,<br>empowering the NBTC to perform <b>case-by-case</b><br><b>investigation</b> after receiving complaints.<br>However, the net neutrality should be implemented<br>when <b>the network infrastructure is ready and the</b><br><b>broadband market is highly competitive</b> . | <ul> <li>Regulator:</li> <li>Has to announce "Notification" to public regarding the implementation of net neutrality principles.</li> <li>Has regulatory burden to investigate the complaint regarding the internet traffic treatment of telco and ISP</li> </ul> |



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For NTBC to work closely together with the other regulators who have an authorization in dealing with copyright infringement issue and taxation issue.





Each OTT TV regulation should be imposed according to OTT TV market stage. We recommend supporting OTT TV with very light touch of regulation in the first period.

