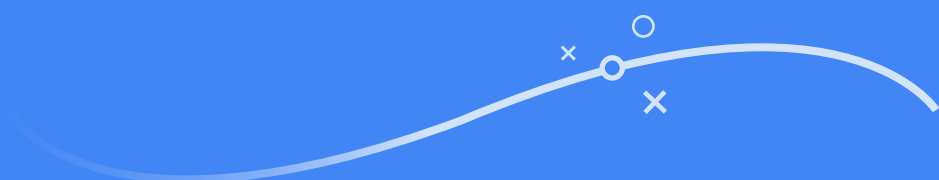


e-Conomy SEA 2018

Southeast Asia's internet economy
hits an inflection point

Google TEMASEK



Scope

e-Economy SEA is a multi-year research project by Google and Temasek to shed light on the internet economy in Southeast Asia. This year's research covers four key sectors of the internet economy: Online Travel (Flights, Hotels, Vacation Rentals); Online Media (Advertising, Gaming, Subscription Music and Video on Demand); Ride Hailing (Transport, Food Delivery); and e-Commerce (First-Hand Goods). It does not include other sectors of the internet economy that are still in the early stages of development or lack reliable data sources, such as Education, Financial Services, Healthcare, and Social Commerce. Our research covers the six largest markets in Southeast Asia: Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam. All monetary values are expressed in U.S. dollars unless specified otherwise.

Sources

e-Economy SEA leverages Google Consumer Barometer, Temasek research, industry expert interviews, and third-party sources, to provide the best available estimates and projections of the internet economy metrics and trends.

Acknowledgments

We would like to acknowledge the insights shared by internet economy companies and industry experts who participated in this research, particularly the contribution of teams at Golden Gate Ventures, Monk's Hill Ventures, Openspace, Wavemaker, and Jungle Ventures for providing data and insights on venture capital investments in Southeast Asia.

Introducing e-Conomy SEA 2018

In May 2016, Google and Temasek released “e-Conomy SEA — Unlocking the \$200B digital opportunity in Southeast Asia,” a foundational research study that shed light on the fast-growing internet economy in the region. In that research, we presented Southeast Asia as the world’s fastest-growing internet region, with an existing internet user base of 260 million users. We predicted that Southeast Asia’s internet economy would grow to \$200 billion by 2025, driven primarily by the growth of online travel, e-commerce, and online media. We also estimated that in order to achieve that goal, investments of approximately \$40 to \$50 billion would be required over a decade.

In November 2017, we followed it up with “e-Conomy SEA Spotlight 2017 — Unprecedented growth for Southeast Asia’s \$50B internet economy.” There, we highlighted some of the most significant industry trends, such as the boom of e-commerce marketplaces and ride hailing services as well as the acceleration of venture capital investments in the region. We also discussed the encouraging progress made by ecosystem players in addressing challenges that constrain the internet economy from reaching its full potential, such as the availability of homegrown tech talent, digital payment solutions, last-mile logistics infrastructure, high-speed internet access, and consumer trust.

Coping with the continuous development of Southeast Asia’s internet economy ecosystem, “e-Conomy SEA 2018 — Southeast Asia’s internet economy hits an inflection point” includes sectors of the internet economy not covered in our previous research, such as Online Vacation Rentals (Online Travel), Subscription Music & Video on Demand (Online Media), and Online Food Delivery (Ride Hailing). These sectors have achieved substantial adoption among Southeast Asian users, resulting in significant business size and growth.

Southeast Asian internet users: mobile-first, most engaged globally

Supported by the increasing availability of affordable smartphones and the rollout of faster and more reliable mobile telecommunication services, Southeast Asia’s internet user base continued to grow in 2018. There are more than 350 million internet users across Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam in June 2018 — 90 million more than in 2015. Also, with more than 90% of Southeast Asians connecting to the internet primarily through their smartphones, this is one of the most mobile-first internet regions globally.

There are more than 350 million internet users across Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam — 90 million more than in 2015.

Southeast Asian internet users are the most engaged in the world. According to recent research by Hootsuite,¹ internet users in Thailand spend 4 hours and 56 minutes per day using mobile internet — more than in any other country in the world. Indonesian, Filipino, and Malaysian users, who spend approximately 4 hours per day on mobile internet, are also among the top 10 globally in terms of engagement. By comparison, internet users in the U.K. and in the U.S. spend just over 2 hours per day on mobile internet, while users in France, Germany, and Japan spend approximately 1 hour and 30 minutes per day.

For most Southeast Asians, smartphones represent the primary gateway to search information, social media and messaging applications, and music and video entertainment. Smartphones also enable access to maps, news, personal productivity applications such as emails and spreadsheets, and transportation services, contributing to improve the livelihood of vast segments of the population that don't have access to the internet via desktop or laptop computers.

Southeast Asia's internet economy hits an inflection point

Powered by a large, growing, and incredibly engaged internet user base, we estimate that the Southeast Asian internet economy has reached \$72 billion in gross merchandise value (GMV) in 2018 across Online Travel, e-Commerce, Online Media, and Ride Hailing. Growing at 37% from a year earlier,² it has accelerated beyond the 32% compounded annual growth rate (CAGR) that we recorded between 2015 and 2018, therefore hitting an inflection point.

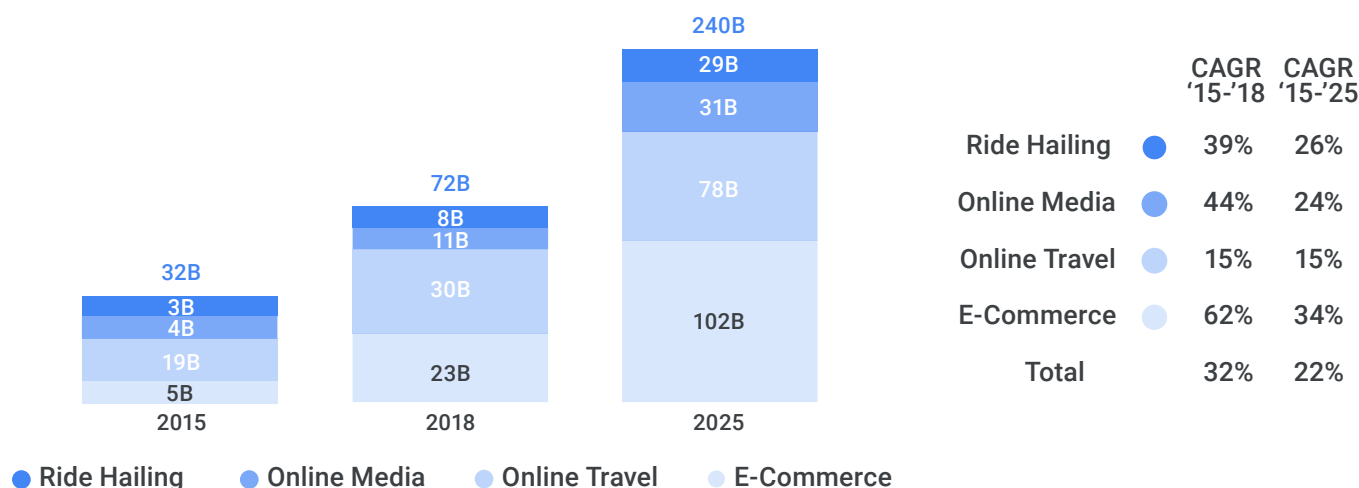
Southeast Asia's internet economy reached \$72 billion in 2018 and is on track to exceed \$240 billion by 2025, \$40 billion higher than previously estimated.

¹Hootsuite Digital in 2018 report, based on a GlobalWebIndex survey of internet users in the age group 16-64.

²In our e-Conomy SEA Spotlight 2017 research, we estimated that the internet economy was worth \$50 billion in 2017.

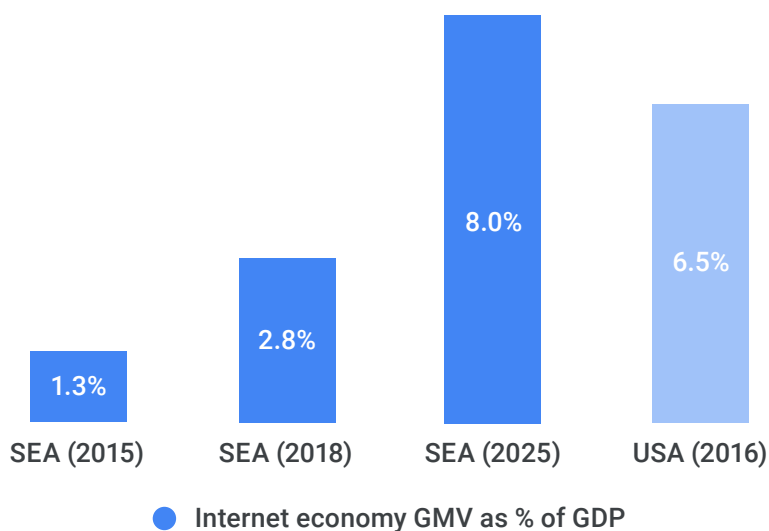
With the addition of the new sectors included in e-Conomy SEA 2018, the estimates for 2017 are updated to \$53 billion.

SEA internet economy market size (GMV, \$B)



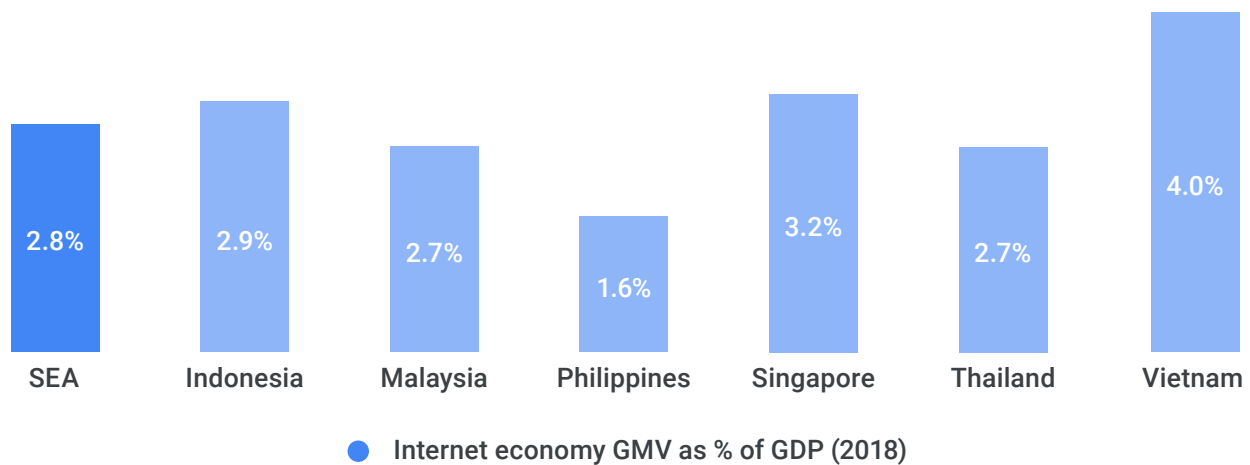
With the addition of the new sectors of Online Vacation Rentals, Online Food Delivery, and Subscription Music & Video on Demand, and amid the accelerated growth observed across all sectors, the internet economy in the region is on track to exceed \$240 billion by 2025 — \$40 billion higher than previously estimated.

Internet economy GMV as % of GDP



The GMV of the internet economy stands at 2.8% of Southeast Asia's gross domestic product (GDP) in 2018 — up from 1.3% in 2015 — and is projected to exceed 8% by 2025. To put that into perspective, Southeast Asia is still trailing almost 10 years behind the U.S., where the GMV of the internet economy already accounted for 6.5% of GDP back in 2016.³ The gap, however, has started to narrow.

Internet economy GMV as % of GDP (2018)



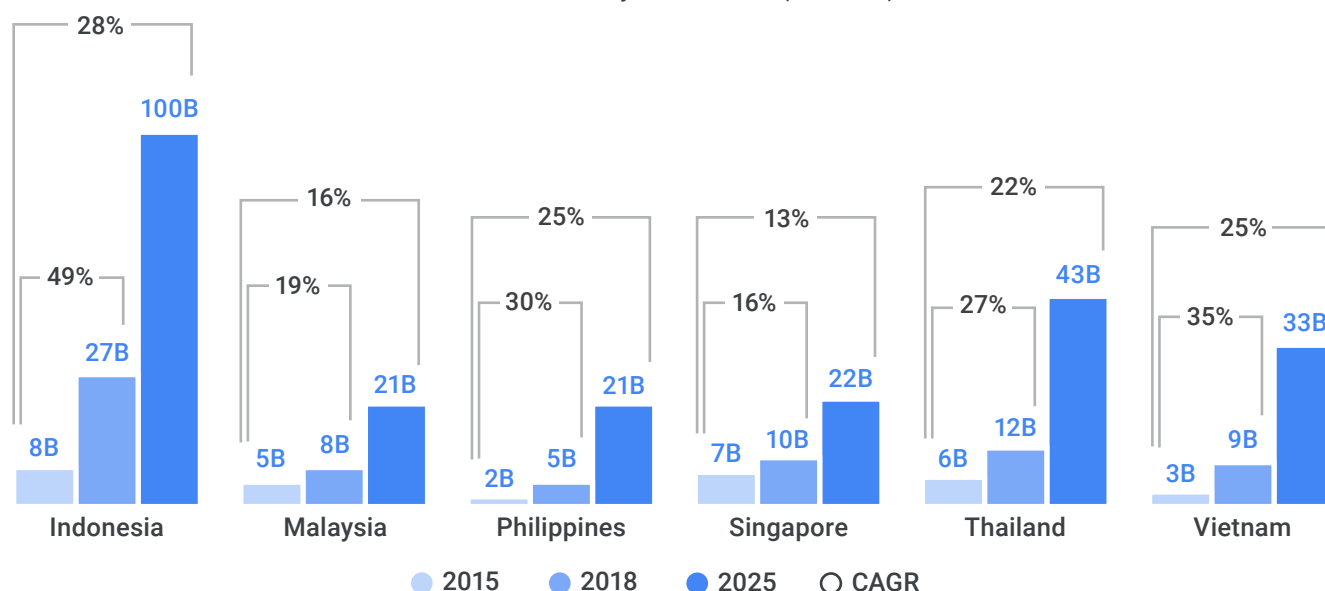
While the internet economy is growing in all six Southeast Asian countries covered in our research, the stage of development relative to the size of each country's economy differs. It is most developed in Vietnam, where the GMV of the internet economy is 4% of the country's GDP, and it has the most room to grow in the Philippines, where it reaches 1.6% of GDP. Singapore, where the internet economy is 3.2% of its GDP, ranks second in Southeast Asia, although it still lags behind markets like the U.S. or China.

The Indonesian internet economy, the largest and fastest growing in the region, reached \$27 billion in 2018 and is poised to grow to \$100 billion by 2025.

The Indonesian "digital archipelago" is firing on all cylinders. Supported by the largest internet user base in the region (150 million users in 2018), Indonesia has the largest (\$27 billion in 2018) and fastest growing (49% CAGR 2015-2018) internet economy in the region. With huge headroom across all sectors, it is poised to grow to \$100 billion by 2025, accounting for \$4 of every \$10 spent in the region.

In Thailand, the second largest internet economy in the region (\$12 billion in 2018, 27% CAGR in 2015-2018), growth has been driven by one of the most vibrant e-Commerce markets as well as by rapid growth in Online Advertising and Gaming. The Ride Hailing and Online Travel sectors still offer huge headroom for growth and are increasingly attracting investments from Southeast Asian unicorns (private companies that have reached \$1 billion valuation) such as Go-Jek, Grab, and Traveloka.

SEA internet economy market size (GMV, \$B)



In Vietnam, the internet economy (\$9 billion in 2018, 38% CAGR in 2015-2018) is akin to a dragon being unleashed. With e-Commerce almost doubling in 2018 from a year earlier, and with Online Advertising and Gaming growing at more than 50% year on year, the Vietnamese internet economy is booming. Amidst one of the lowest penetrations of online travel bookings in the region, the Online Travel market has also huge headroom for growth.

The Vietnamese internet economy, akin to a dragon being unleashed, has almost tripled in three years, driven by e-Commerce and Online Media.

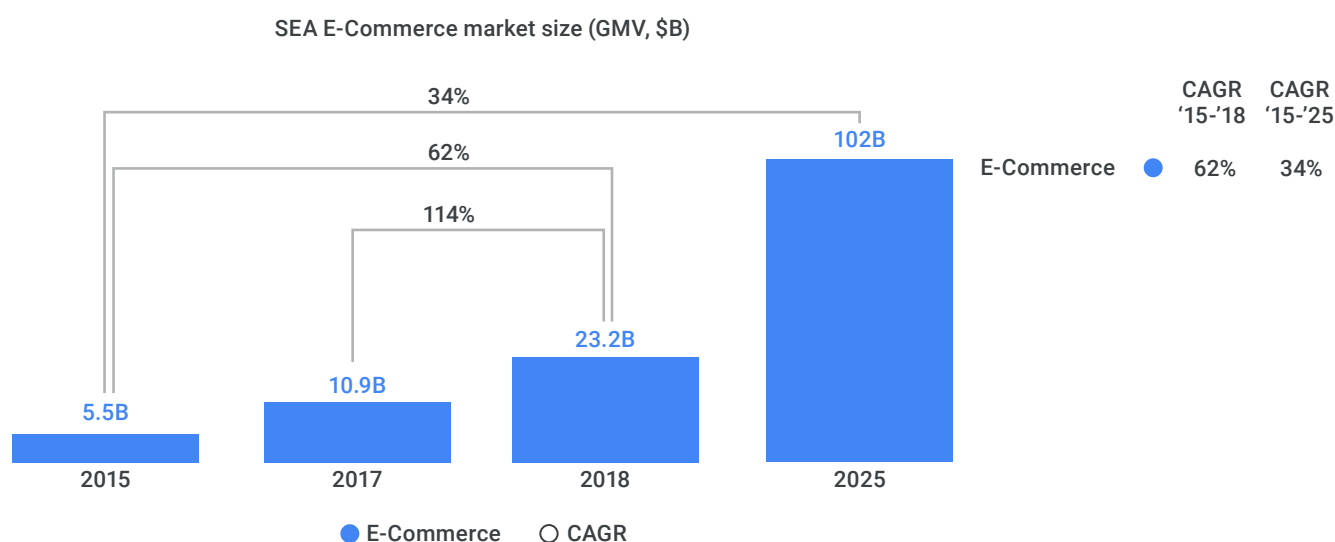
Malaysia (\$8 billion in 2018, 19% CAGR in 2015-2018) and Singapore (\$10 billion in 2018, 16% CAGR in 2015-2018) — the most developed economies in the region on a GDP per capita basis — are both experiencing growth in the high teens. Excluding the sizable and more mature Online Travel sector, annual growth rates exceed 25% in both markets. In order to unlock their full potential, the Malaysian and Singaporean e-Commerce sectors need to further accelerate and reach the adoption level typical of countries with comparable income per capita.

Lastly, the internet economy in the Philippines (\$5 billion in 2018, 30% CAGR 2015-2018) is still a relatively untapped opportunity. Despite having the second largest internet user base (75 million) in Southeast Asia, the Philippines have not yet generated unicorns nor shown the dynamism of the Indonesian and Vietnamese markets. With increased focus and investments from regional unicorns and local startups, we estimate that the Philippines could ignite growth beyond 30% CAGR and fully achieve its long-term potential.

e-Commerce doubles up, powered by Southeast Asia's unicorns

e-Commerce has been the most dynamic sector of the internet economy in the last three years. Accounting for just over \$5.5 billion in GMV in 2015,⁴ it has grown more than 4X since then and exceeds \$23 billion in 2018, representing a 62% CAGR over the period. On the back of the increased consumer trust in e-Commerce demonstrated by Southeast Asian internet users, we have revised our projections and now estimate that the e-Commerce sector will exceed \$100 billion by 2025.

e-Commerce has been the fastest growing sector of the internet economy — reaching \$23 billion in 2018, it will exceed \$100 billion by 2025.

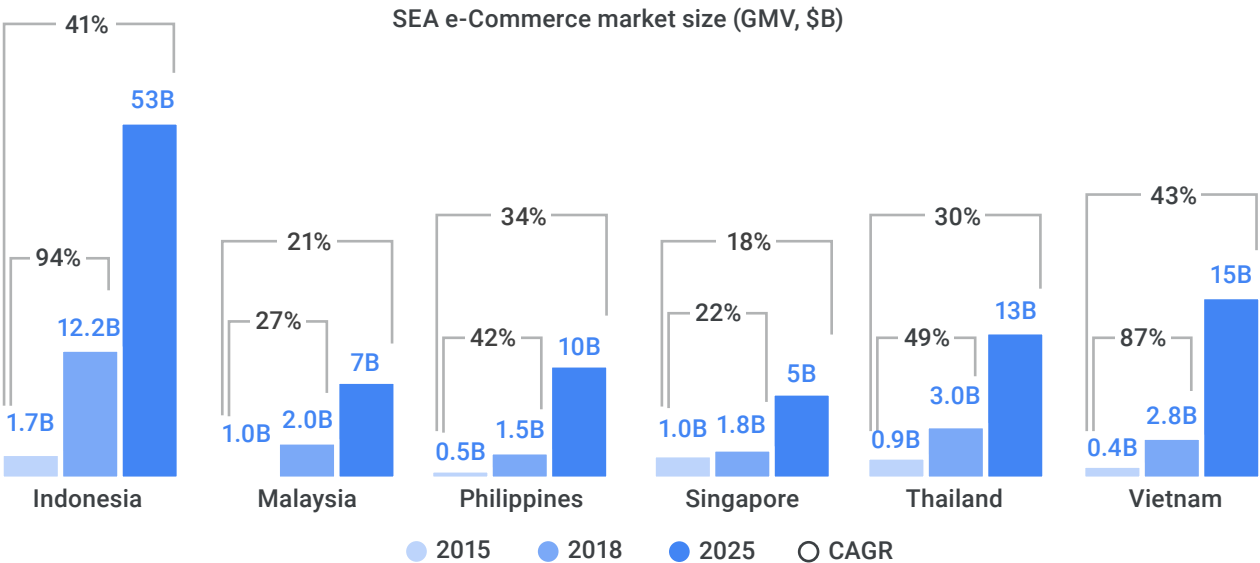


The three largest e-Commerce companies in the region, Lazada, Shopee, and Tokopedia, have played a critical role in the development of the sector. They are estimated to have grown collectively more than 7X since 2015, well above the rest of the sector. By offering tens of millions of products, world-class mobile user experiences, frequent consumer promotions, and far-reaching logistics networks, they have been the leading forces behind the dramatic growth of e-Commerce in Southeast Asia.

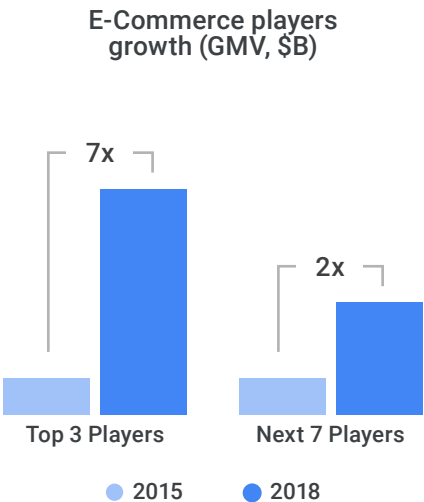
The three largest Southeast Asian e-Commerce players, Lazada, Shopee, and Tokopedia, have played a critical role in the development of the sector.

⁴GMV of shipped orders (including VAT). In line with previous e-Economy SEA research, this includes e-Commerce sales from businesses to consumers (B2C) and sales on marketplaces where first-hand goods are sold by small and medium businesses to consumers (SMB-2-C). It does not include sales of second-hand goods by consumers to consumers (C2C) nor sales conducted via social media platforms (Social Commerce), for which estimates vary due to lack of reliable sources.

While e-Commerce is experiencing healthy growth in all Southeast Asian countries, Indonesia is leading the way, reaching \$12 billion in 2018 and accounting for more than \$1 in every \$2 spent in the region. e-Commerce adoption has also accelerated in Thailand and in Vietnam, where it has reached nearly \$3 billion in 2018. Similarly, across all these markets, Southeast Asian consumers increasingly rely on e-Commerce to buy a wide range of products that are not available in stores, as a result of the relative underdevelopment of the modern retail channel outside of metro cities.



The increasing role played by the top three players in the e-Commerce sector is also evident through other important engagement metrics, confirming a trend that sees an increasing consolidation of consumers' preferences. With a large user base and seller base on their platforms, they have contributed to the rapidly increasing popularity of e-Commerce among Southeast Asians.

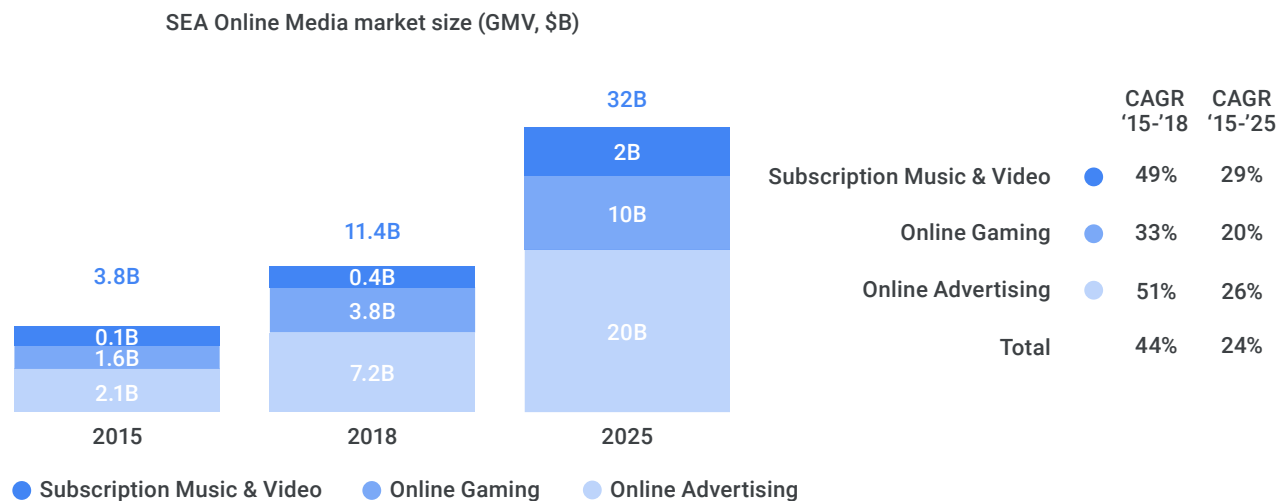


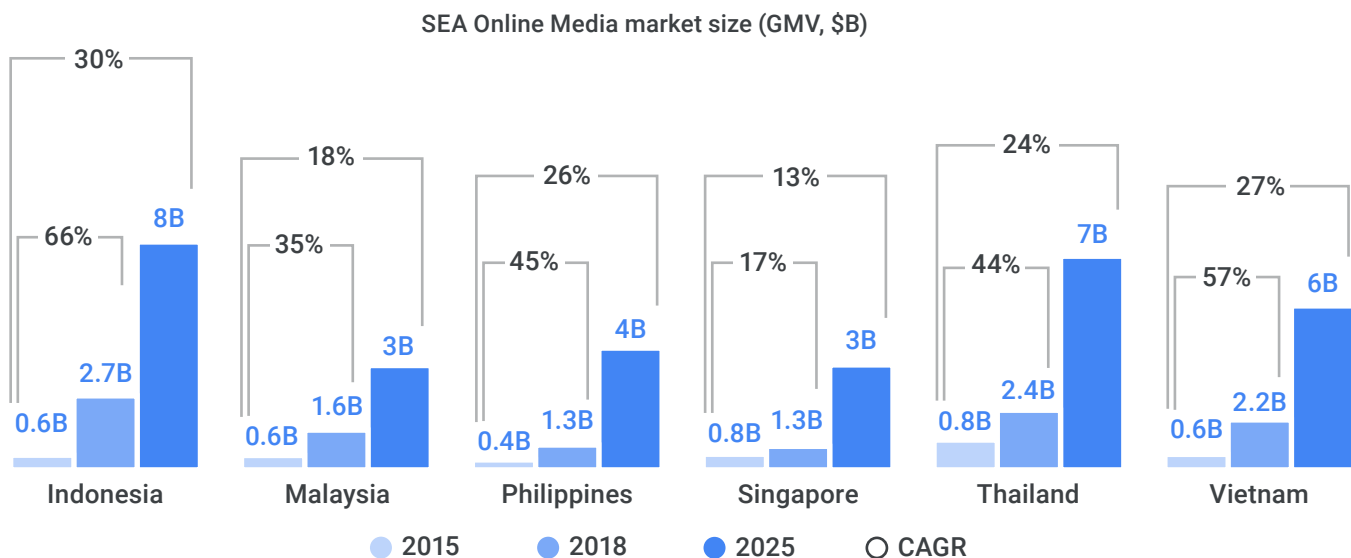
As the e-Commerce sector matures, we expect that the basis of competition and key growth drivers will also evolve. e-Commerce players in the region will increasingly aim for leadership in each geographical market, with Indonesia being the primary battleground for both regional and local players. They will also expand from metro cities to second-tier cities and rural areas, where e-Commerce penetration is lower and growth prospects are the highest.

Furthermore, the leading marketplaces will compete for preference among key consumer segments, such as “Young Females” and “Fashionistas,” and for category leadership in verticals such as “Apparel” and “Health & Beauty,” among them and against other e-Commerce players that focus on specific segments and categories. Lastly, with a goal to build sustainable business models, they will increasingly drive monetization from brands and sellers by providing them with value-added services, such as analytics, logistics, and marketing.

Online Media accelerates fueled by the incredible user engagement

Online Media, which includes Online Advertising, Gaming, and, for the first time in our e-Economy SEA research, Subscription Music & Video on Demand, has exceeded \$11 billion in 2018. Growing 3X in three years since 2015, it has been the second-fastest growing sector of the internet economy, behind e-Commerce. The two drivers propelling this sector have been the continuous growth of the internet user base, which has reached 350 million in 2018, and the engagement of Southeast Asians, the most active on mobile internet users globally. With the addition of the Subscription Music & Video on Demand segment, we project that Online Media will reach almost \$32 billion by 2025 – as much as the entire internet economy was worth in 2015.





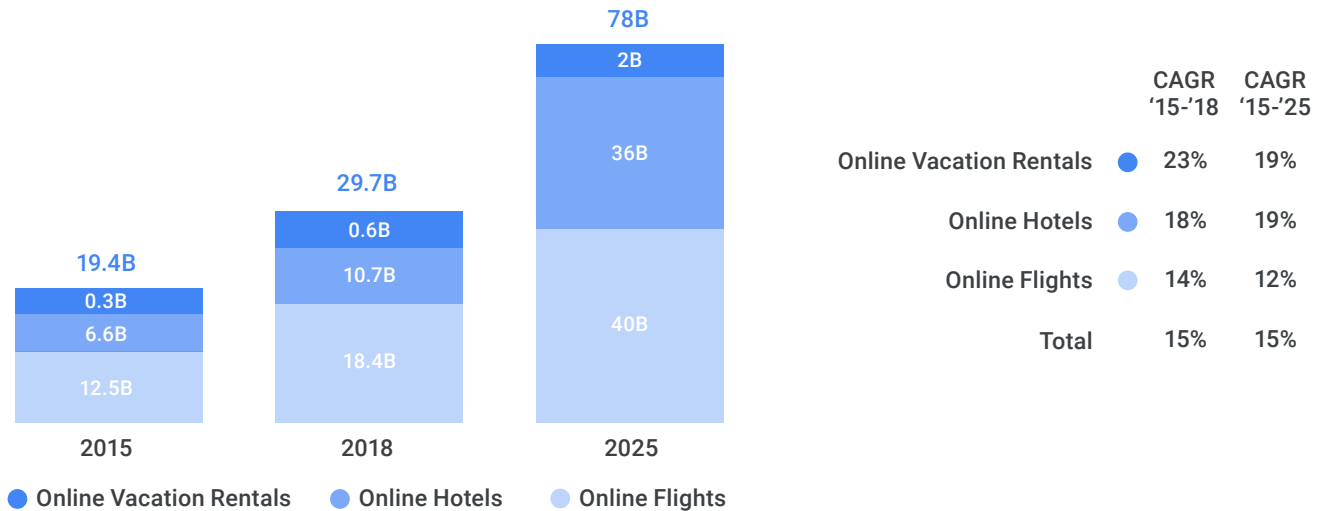
The Indonesian Online Media market, rising on the back of the largest internet user base in the region, is the largest at \$2.7 billion and fastest growing at 66% CAGR. Online Media is also growing rapidly in Thailand, reaching \$2.4 billion, and in Vietnam, where it's worth \$2.2 billion. This is not surprising, considering that both countries rank among the top 10 globally in terms of user engagement on gaming, social media and video platforms.

Growth continues in Online Travel as Southeast Asian travelers go online

Online Travel is the largest and most established among the four sectors of the internet economy in Southeast Asia. Including online bookings for flights, hotels, and, for the first time in our e-Economy SEA research, Online Vacation Rentals, Online Travel is expected to add up to nearly \$30 billion in gross bookings value (GBV) in 2018. Having grown at a healthy 15% CAGR between 2015 and 2018, it is expected to continue growing at a similar pace going forward, reaching \$78 billion by 2025.

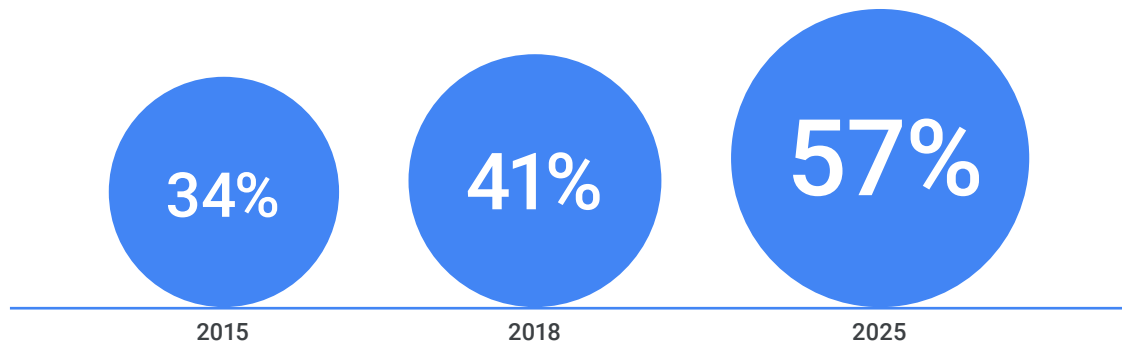
Online Travel is the largest and most established sector of the internet economy, adding to nearly \$30 billion in bookings and growing 15% year over year.

SEA Online Travel market size (GMV, \$B)



We estimate that 41% of all travel bookings made in Southeast Asia were completed online in 2018 — up from 34% in 2015. Travel bookings keep moving from offline channels, such as traditional travel agents, call centers, and in-person bookings at hotels, to online channels operated by online travel aggregators (OTAs), airlines, and hotel chains.

Online travel bookings as % of total travel bookings



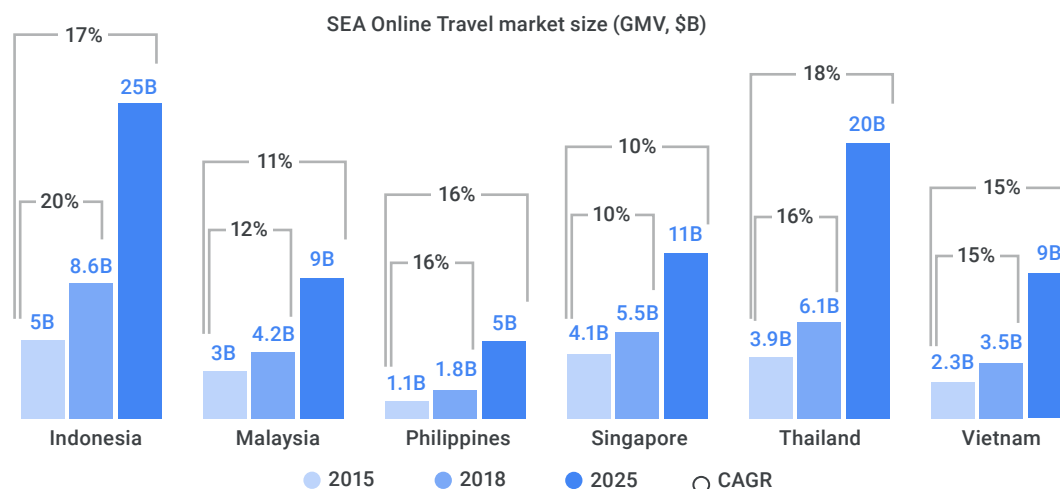
This has been driven primarily by the continuous increase in consumer trust for players like Agoda, Booking, Expedia, and Traveloka, which offer a wide range of flights, hotels, vacation rentals, and other travel services. OTAs give travelers the ability to easily compare and find the best products and prices as well as the convenience to check availability and to complete the booking in one go. Significant improvements in user experiences on mobile websites and apps, coupled with widespread smartphone adoption, have made online travel bookings accessible to more and more Southeast Asians. As these trends continue to unfold, we project that up to 57% of all travel bookings will be completed online by 2025.

While all segments have enjoyed steady growth, a closer look also highlights some differences. Online Flights is the largest and most established segment within Online Travel, worth \$18 billion in online bookings in 2018 and growing at 14% CAGR. With practically all airlines offering the ability to buy flights via their websites, apps, or online travel aggregators, travelers have long enjoyed the ability to book flights online for both national and low-cost carriers in the region.

Online bookings for hotels — estimated to be worth \$14 billion in 2018 and rising at 18% CAGR — have an even higher growth potential. Many hotels in Southeast Asia, particularly in the budget segment and in “off the beaten path” locations, still receive the majority of bookings through offline channels, though they are poised to increasingly go online in the years ahead.

By securing increasing consumer trust and supportive regulations, Online Vacation Rentals have the potential to grow to almost \$2 billion by 2025.

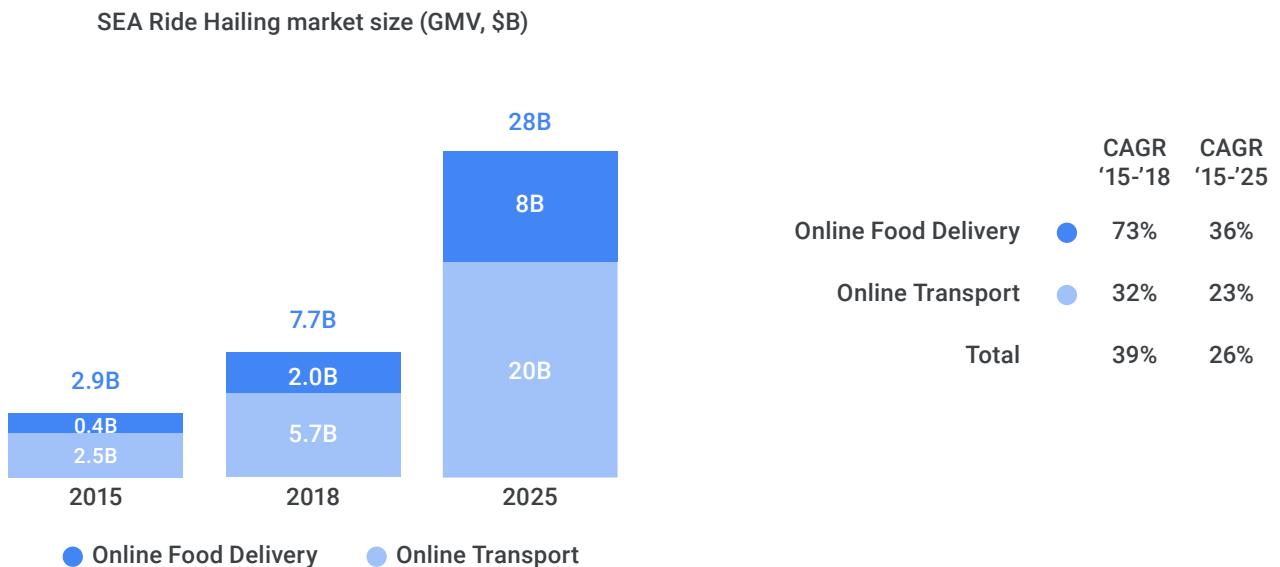
Lastly, Online Vacation Rentals is emerging as the most dynamic segment in Online Travel, on track to exceed \$600 million in bookings in 2018 and growing at 24% CAGR. When Online Vacation Rentals brands such as Airbnb have experienced rising consumer interest in Southeast Asia, leading OTAs have followed suit by expanding their offers of private homes and rooms. Despite being hindered by regulatory uncertainty and nascent consumer trust, Online Vacation Rentals has the potential to grow to almost \$2 billion by 2025.



From a country perspective, the Indonesian and Thai online travel markets are the two largest in Southeast Asia, with \$8.6 billion and \$6.1 billion in GBV, respectively, in 2018. The meteoric rise of Traveloka, the Indonesian Online Travel unicorn, has played a key role in accelerating the development of the online travel ecosystem in its own domestic market — the fastest growing in the region at 20% CAGR. Traveloka’s expansion in markets like Thailand and Vietnam is also contributing to accelerate the growth in the region. It is also worth noting how the online travel market in Singapore — with \$5.5 billion in GBV in 2018 — continues to punch above its weight, supported by the highest per-capita spend in the region.

Ride Hailing expands to be the “everyday apps” of Southeast Asians

On 2018 has been a year of transformation for the Ride Hailing sector in Southeast Asia. With the announcement of the deal between Grab and Uber in March 2018 – and the consequent withdrawal of Uber services from the region – Grab has consolidated its leadership in the region. Soon after Go-Jek, the Indonesian Ride Hailing unicorn, has announced a regional expansion plan aimed at launching its services in the Philippines, Singapore, Thailand, and Vietnam, in addition to its own domestic market.



We estimate that the Ride Hailing sector, including Online Transport and, for the first time in our e-Economy SEA research, Online Food Delivery has reached \$7.7 billion in GMV in 2018⁵ – growing at a 39% CAGR since 2015⁶ – with services available in more than 500 Southeast Asian cities.⁷ Powered by the ambitions of Go-Jek and Grab to become Southeast Asia’s “everyday apps,” we project that Ride Hailing will reach almost \$30 billion by 2025, including more than \$20 billion of Online Transport and over \$8 billion of Online Food Delivery.

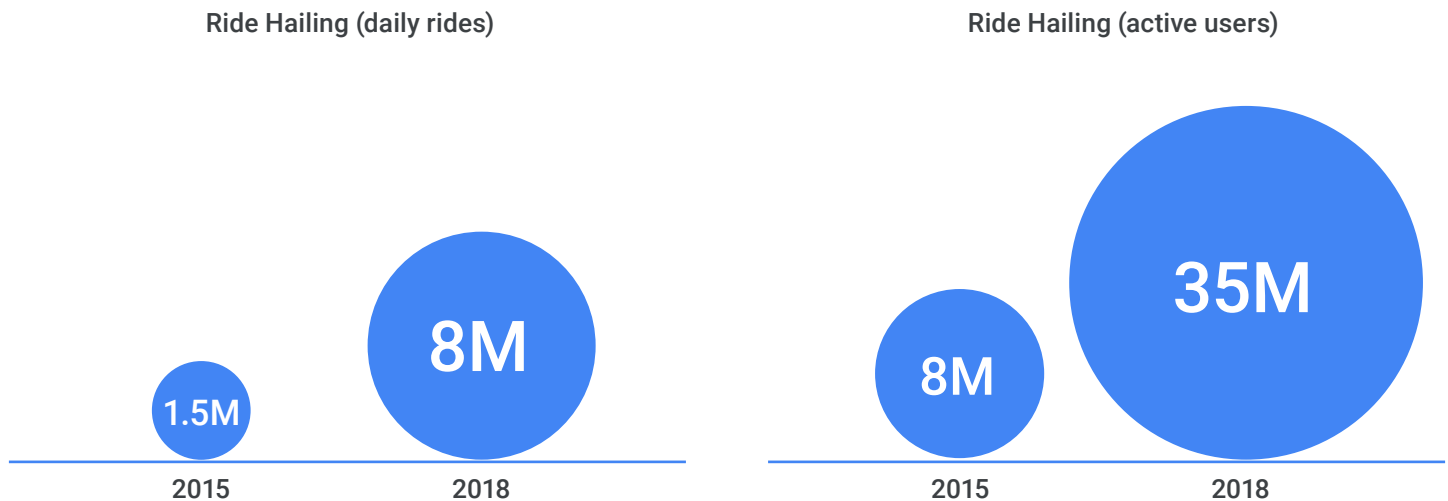
Now available in more than 500 cities in Southeast Asia, Ride Hailing services are regularly used by more than 35 million users — 4X more than three years ago.

⁵Online Food Delivery includes ride hailing players (Go-Food, GrabFood) and online food delivery platforms (for example, Deliveroo and Foodpanda). We do not include food delivery services by Food & Beverage outlets that offer delivery services.

⁶Online Transport GMV represents the value paid by end users for completed trips. Online Food Delivery GMV includes the value paid by end users for food and of delivery charges of completed orders.

⁷Go-Jek, Grab websites.

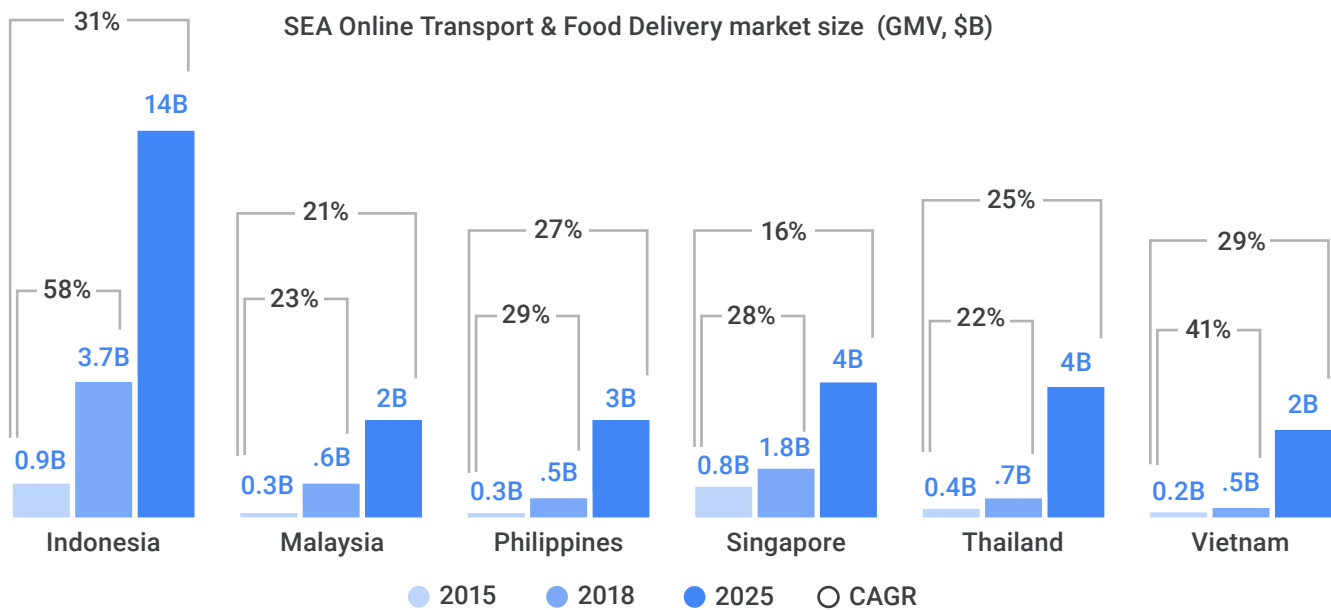
Consumer adoption of Ride Hailing services continues to increase, with an estimated 35 million Southeast Asians actively using Ride Hailing services and booking 8 million rides on an average day – up more than 4X from 2015. Despite this impressive growth, Ride Hailing services continue to have huge headroom for further growth, by considering that more than 80% of Southeast Asian internet users are not yet actively using them.



Ride Hailing services have gained incredible traction in Indonesia where they reached \$3.7 billion in 2018 after growing at a 58% CAGR since 2015, and this is now the largest and fastest growing market in the region. The Online Food Delivery sector alone already exceeds \$1 billion in the country, primarily driven by the explosive growth of GoFood.

Ride Hailing services are popular in Singapore, the second largest market in the region by value, worth an estimated \$1.8 billion in 2018.

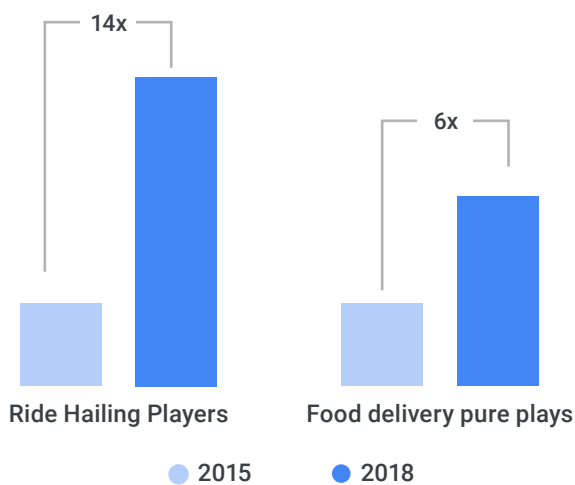
Despite serving the smallest user base in the region, Ride Hailing services are also very popular in Singapore, the second largest market in the region by value, with an estimated \$1.8 billion in GMV in 2018. This is due to fares for Online Transport rides and Online Food Delivery orders that can be 5X to 10X higher in Singapore compared to markets like Indonesia and Vietnam, where they can cost as low as \$1 to \$2.



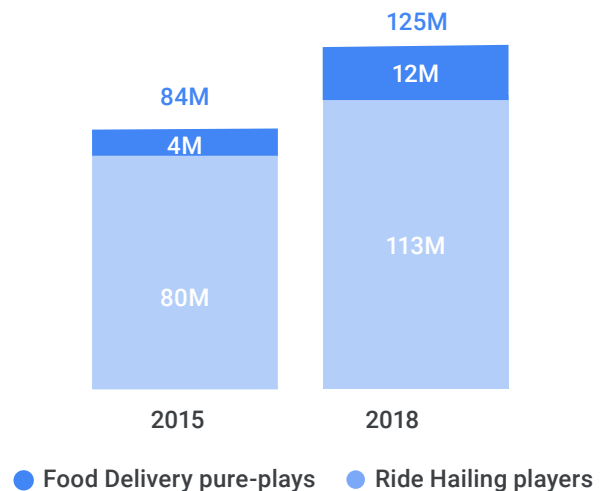
Since their launch in Southeast Asia, Ride Hailing players have grown primarily by focusing on acquiring users and expanding geographically in their Online Transport businesses, leveraging promotions for riders, incentives for drivers, and marketing to raise awareness. This period, which ended with Uber's withdrawal from the region, has made way to a new phase where competition revolves around winning consumers' preference on other popular use cases.

The next battleground to become the "everyday apps" of Southeast Asians has become Online Food Delivery. In this space, Go-Jek and Grab compete with Online Food Delivery "pure plays" like Deliveroo and Foodpanda⁸ by leveraging their well-known brands⁹ and larger user bases.¹⁰

Indexed Google Searches
Top Ride Hailing players & Food Delivery pure-plays



Apps install base
Top Ride Hailing players & Food Delivery pure plays



⁸Online Food Delivery pure plays include, for example, Deliveroo, Foodpanda, Honestbee, Damakhan, and Deliverat.

⁹Google Data, SEA, January 2015-August 2015 vs. January 2018-August 2018.

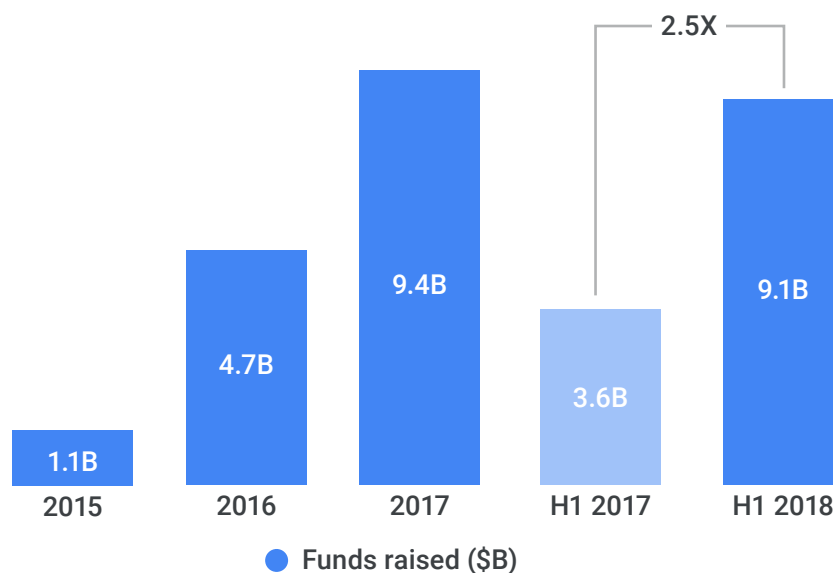
¹⁰App Annie Data.

Beyond Online Transport and Online Food Delivery, the third focus area for Ride Hailing players is the development of online financial services. Go-Jek and Grab already offer digital payment solutions, GoPay and GrabPay, that are gaining user adoption due to their convenience, benefits, and rewards. On top of those, they have announced plans to offer a broad range of online financial services, which include money transfers, personal lending, investment products, and insurance services — sectors where they will face competition from established banking and insurance players and from a wave of FinTech startups — all aiming to win the preference of Southeast Asian internet users in the still largely untapped online financial services space.

Record year for internet economy fundraising in Southeast Asia

The internet economy of Southeast Asia has experienced a dramatic surge in fundraising over the last four years. Companies in the region began to seriously attract the attention of venture capital, private equity, and corporate investors in 2015, when funds raised crossed the \$1 billion mark for the first time. After that, investments have continued to grow at an exponential pace. Internet economy companies received more than 4X that amount in 2016, when they raised \$4.7 billion, and further doubled that in 2017, when they raised \$9.4 billion. 2018 is on track to be a record year, with \$9.1 billion raised in the first half of the year, nearly as much as in all of 2017.¹¹

SEA internet economy fundraising (\$B) 2015-H1 2018



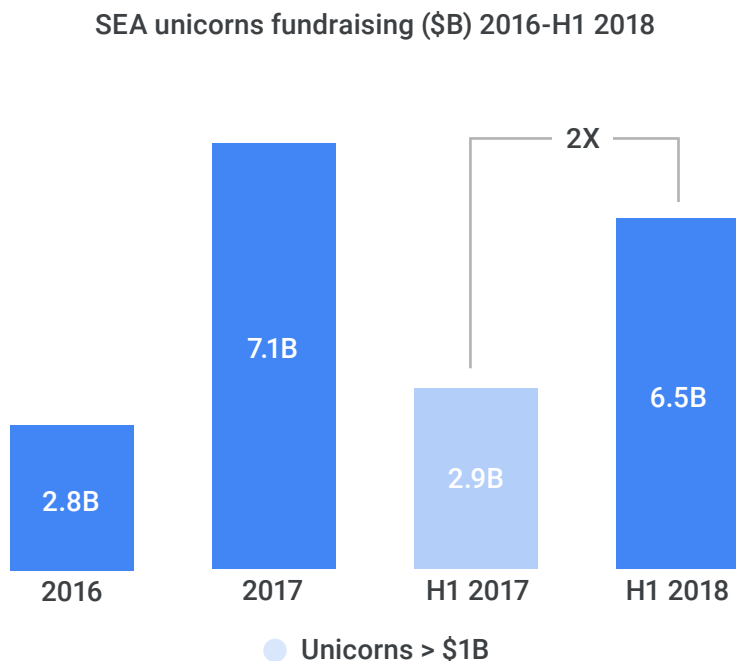
With the total capital raised adding up to \$24 billion in less than four years, Southeast Asia is progressing ahead of schedule towards the goal of attracting \$40 to \$50 billion worth of investments that we estimated would be required to build the internet economy by 2025.¹²

¹¹H1 2018 fundraising figures include Grab Series H funding round by Grab announced between June and August 2018.

¹²e-Conomy SEA — Unlocking the \$200B digital opportunity in Southeast Asia.

A record \$9 billion raised in the first half of 2018 brings the funds received by internet economy companies in Southeast Asia to \$24 billion in less than four years.

Where did the funding go? Southeast Asia's nine internet unicorns,¹³ Bukalapak, Go-Jek, Grab, Lazada, Razer, Sea Group, Traveloka, Tokopedia, and VNG, have received the majority of it, attracting \$16 billion of the \$24 billion invested in the region.



Among them, Grab took the lion's share, raising more than \$6 billion¹⁴ and becoming the first Southeast Asian decacorn,¹⁵ joining a league of less than 20 privately held companies globally valued over \$10 billion. Three more unicorns, Go-Jek, Lazada and Tokopedia, have succeeded in raising billion-dollar funding rounds. Lastly, two unicorns have tapped into the public markets to fund their growth plans: Razer, which has been listed on the Hong Kong Stock Exchange since November 2017, and Sea Group, which started trading on the New York Stock Exchange in October 2017.

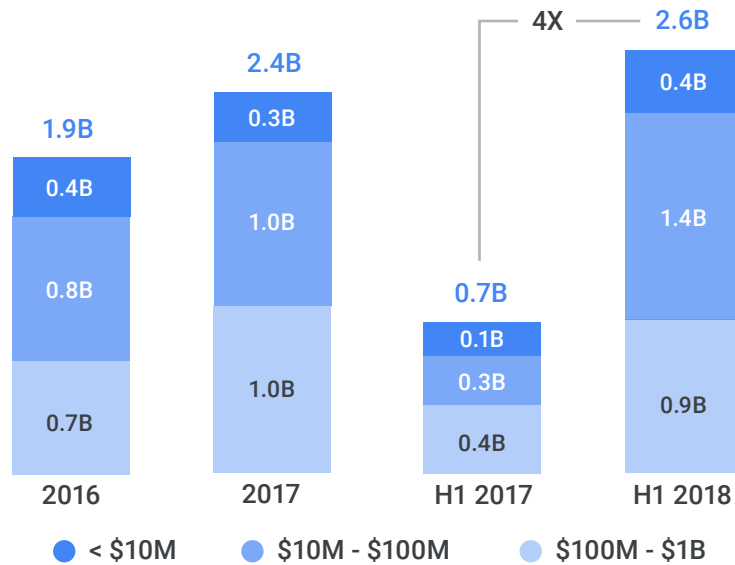
Companies valued between \$10 million and \$100 million, the bedrock of the internet economy, raised a record \$1.4 billion in the first half of 2018.

¹³Unicorn refers to a privately-held company valued over \$1 billion.

¹⁴Including the Series H funding round by Grab announced between June and August 2018.

¹⁵Decacorn refers to a privately held company valued over \$10 billion.

SEA non-unicorns fundraising (\$B) 2016-H1 2018

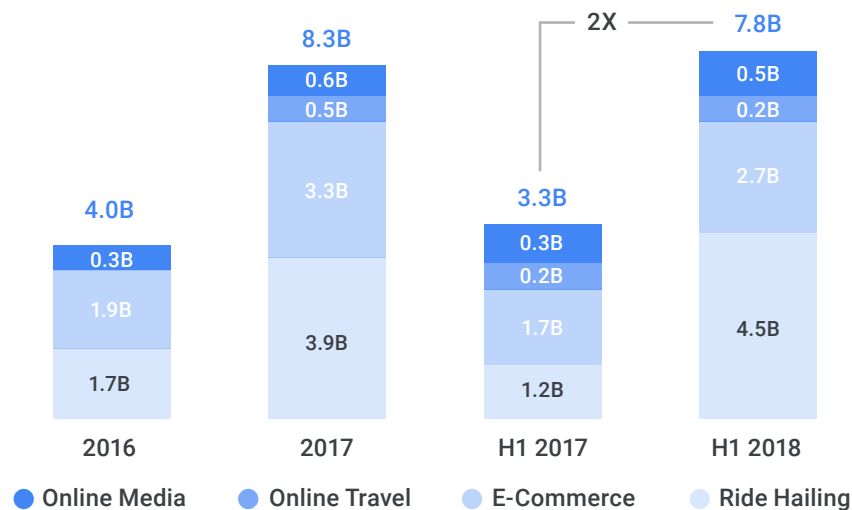


While unicorns have captured most of the attention from the media, the entire ecosystem has benefitted from rapidly growing investor appetites. More than 2,000 internet economy companies in the region have secured investments, with companies valued less than \$1 billion able to raise collectively almost \$7 billion in the last three years. Among them, the most dynamic segment was that of companies valued between \$10 million and \$100 million. The bedrock of the internet economy, these companies have raised \$1.4 billion in the first half of 2018, already eclipsing the \$1.0 billion they received in all of 2017.

Massive funding to Ride Hailing and e-Commerce, surging in Fintech

Southeast Asian e-Commerce, Online Media, Online Travel, and Ride Hailing companies have received investments worth almost \$20 billion since 2016, or more than 80% of the total funds raised by internet economy companies, confirming the importance of these four key sectors covered in our e-Economy SEA research.

SEA main sectors fundraising (\$B) 2016-H1 2018



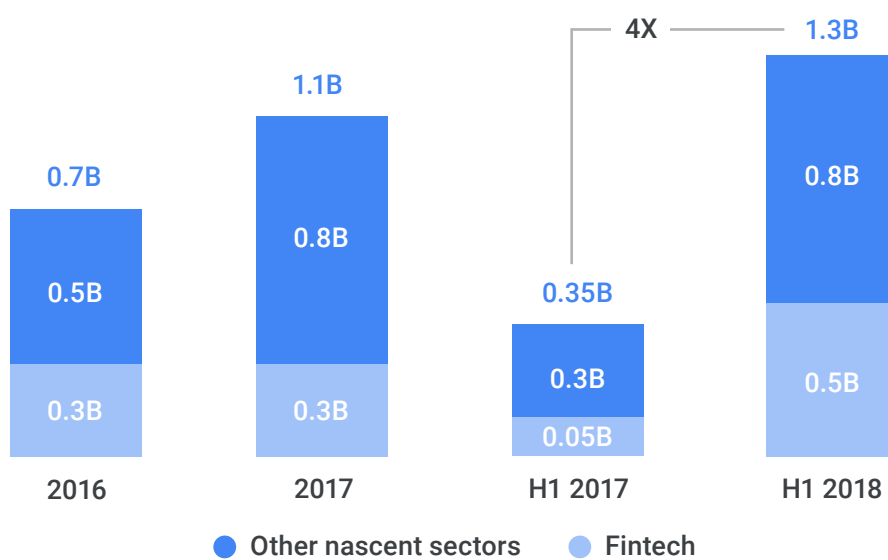
The Ride Hailing sector alone has attracted more than \$10 billion worth of investments in the last three years, with multiple billion dollar rounds raised by Go-Jek and Grab. Ride Hailing players have deployed these funds building their online transport business, more recently accelerating investments to grow in online food delivery and digital payments as well as through acquisitions and partnerships in a quest to become Southeast Asians' "everyday apps."

e-Commerce companies have also received sizable checks from investors, raising \$8 billion since 2016, including multi-billion dollar investments in Lazada led by its parent company Alibaba and fundraising rounds by Sea Group, previously as a private company and more recently as a listed one,¹⁶ primarily aimed at building its e-commerce business Shopee.

Investments in other nascent sectors added up to \$3 billion since 2016, with Fintech attracting 2X more funds in the first half of 2018 than in all of 2017.

Online Media companies have collectively raised \$1.5 billion in the last three years, with the largest deals signed by companies that are benefiting from the hyperbolic rise of online video consumption, including subscription video on demand and live streaming video. Lastly, investments in Traveloka have accounted for the majority of the \$700 million worth of funds raised in Online Travel, the most mature sector of the internet economy, and the one where companies like airlines, hotel chains, and global OTAs are less reliant on venture funds.

SEA nascent sectors fundraising (\$B) 2016-H1 2018

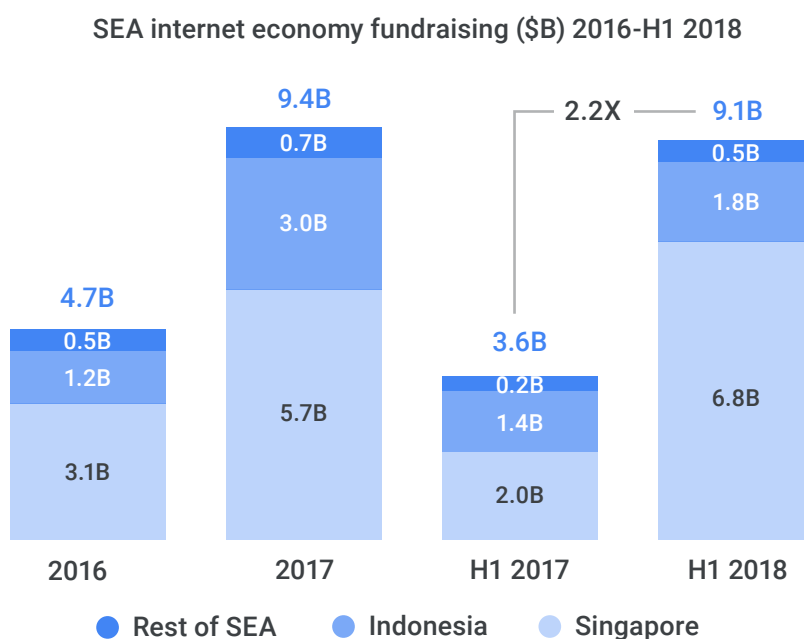


¹⁶Funding analysis in our e-Economy SEA research includes venture capital and private equity fundraising. It does not include funds raised by internet economy companies in occasion of their Initial Public Offerings (IPO) and beyond as listed entities. Unicorn refers to a privately-held company valued over \$1 billion.

Investments in nascent sectors of the internet economy not yet covered in our e-Economy SEA research from a monetization standpoint, including Education, Fintech, Healthcare, and others, added up to \$3 billion since 2016. They have also experienced a dramatic surge in the first half of 2018, when they grew 4X from a year earlier. Among these sectors, Fintech was by far the most dynamic, attracting over \$500 million of investments in the first half of 2018 alone, more than twice as much as in all of 2017. Fintech funding went to more than 300 startups in the region, primarily through Seed and Series A deals, highlighting the ongoing race to unlock the huge opportunities in this financial services space.

Burgeoning deal flow benefitting all Southeast Asian countries

Confirming a situation first highlighted in our e-Economy SEA Spotlight 2017 research, internet economy companies headquartered in Singapore and Indonesia have continued to attract the vast majority of funding in Southeast Asia, bringing the total amount raised since 2015 to \$16 billion in Singapore and to \$6 billion in Indonesia. The remaining \$2 billion has been raised by companies in the rest of Southeast Asia.



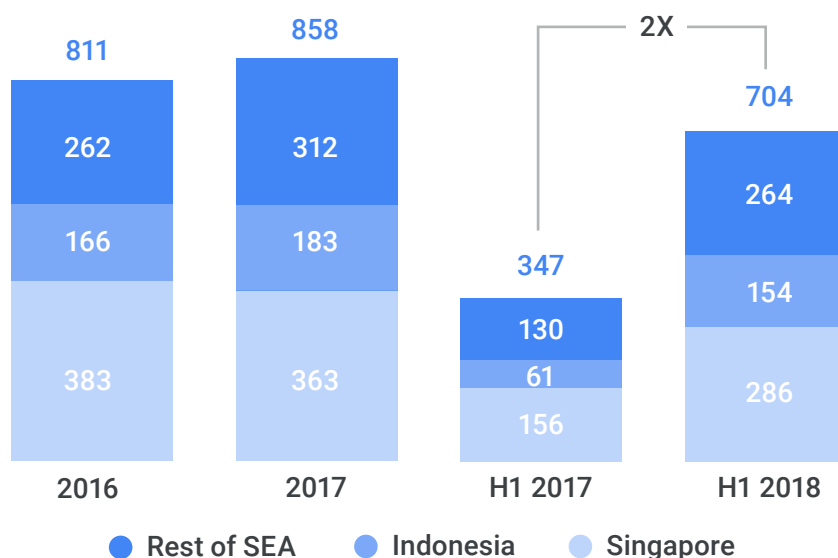
It would be wrong to conclude, based on these figures, that companies and investors are overlooking opportunities in Malaysia, the Philippines, Thailand, and Vietnam. The growing interconnectedness of the Southeast Asian internet economy, coupled with the rise of unicorns with regional ambitions, require us to go beyond country-by-country considerations and to assess how each company deploys resources against regional opportunities.

In particular, unicorns like Grab, Lazada, and Sea Group, which have attracted almost 80% of the funds raised by companies headquartered in Singapore, have deployed those funds to build businesses across the region. Similarly, Go-Jek and Traveloka, after establishing significant positions in Indonesia, have started to invest abroad, pursuing regional expansion plans.

Internet companies in Malaysia, the Philippines, Thailand, and Vietnam also enjoyed a burgeoning deal flow, with more than 800 deals completed since 2016.

An analysis focused on the number of deals, rather than on the amounts raised, shows an even more balanced picture. Singapore and Indonesia continue to be in first and second position, with more than 1,000 and 500 deals closed, respectively. Yet, internet economy companies headquartered in Malaysia, the Philippines, Thailand, and Vietnam also enjoyed a burgeoning deal flow, with more than 800 deals completed in total. In line with the broader acceleration of investments in the region, the number of deals closed in the rest of Southeast Asia countries more than doubled in the first half of 2018 compared to the same period in 2017.

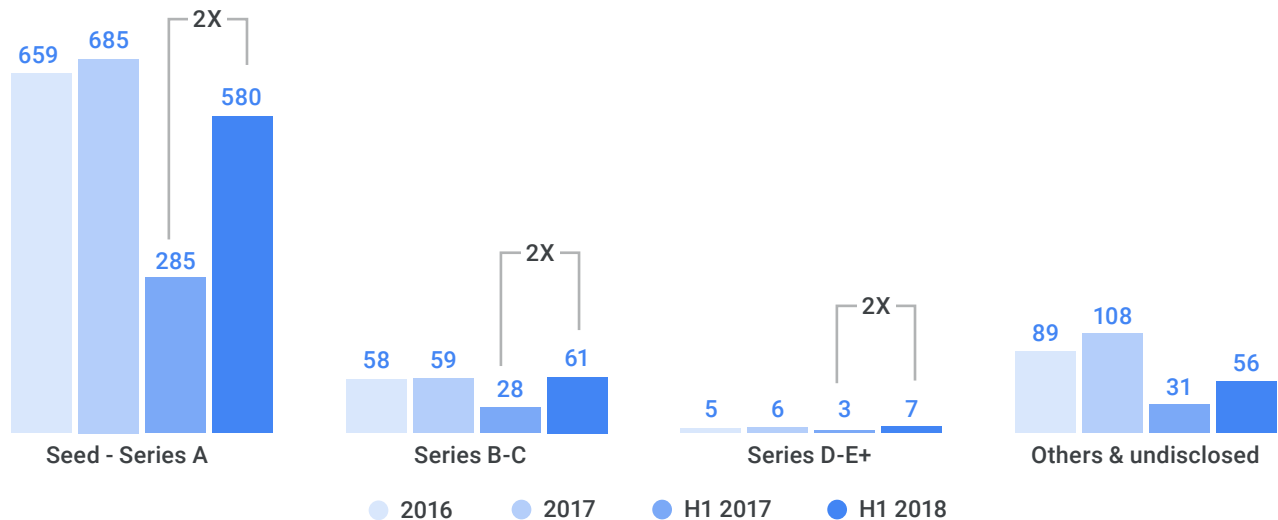
SEA internet economy deals (#) 2016-H1 2018



A deeper look at the individual deals demonstrates how sizable investment opportunities exist across the entire region. Our analysis shows that the average deal size is comparable in Singapore (\$6 million), in Indonesia (\$5 million), and in the rest of Southeast Asia (\$4 million), once unicorns' funding rounds are excluded — an encouraging insight for startups and ventures in the region.

The concerns highlighted in our e-Economy SEA 2017 Spotlight research, where we pointed out how access to follow-up capital was still challenging for startups and ventures, appear to have been largely resolved. After a stagnant 2017, when the number of deals remained almost flat from a year earlier, investment activity has picked up dramatically this year.

SEA internet economy deals (#) 2016-H1 2018

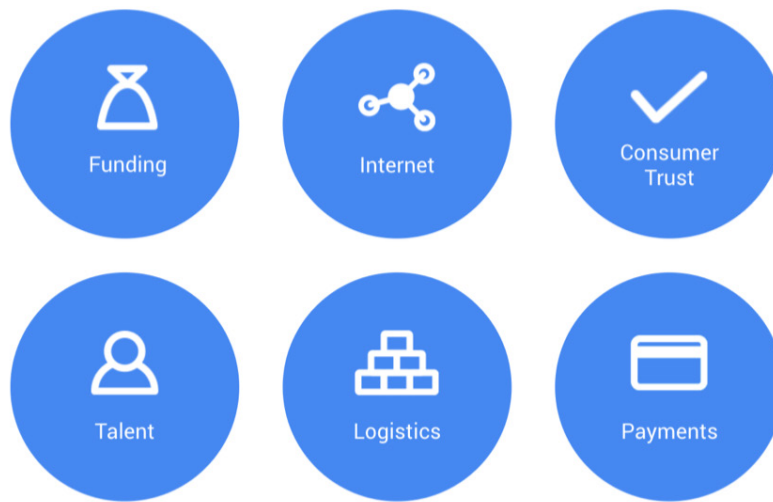


In the first half of 2018, Southeast Asia recorded 580 Seed and Series A deals, typically involving startups valued less than \$100 million, which are planting seeds for the future growth of the internet economy ecosystem. There were also 61 Series B and Series C rounds, targeting companies valued from less than \$100 million to several hundred million dollars that have proven business models and growth ambitions. In both cases, there were nearly as many deals in the first half of 2018 as in all of 2017, bringing the total number of deals in the region to almost 2,400 since 2016.

In summary, 2018 is poised to be a record year for internet economy fundraising in Southeast Asia. More startups than ever have been funded, and more than ever were able to attract follow-up investments, all the way up to multi-billion dollar rounds by regional unicorns. Reversing the funding challenge we originally highlighted in “e-Economy SEA – Unlocking the \$200B digital opportunity in Southeast Asia,” the investors’ confidence has become one of the key elements of strength for the internet economy of Southeast Asia.

Visible progress solving for ecosystem challenges

In our “e-Economy SEA – Unlocking the \$200B digital opportunity in Southeast Asia,” we identified six key challenges to be solved in the following decade in order to unlock the full potential of Southeast Asia’s internet economy: internet infrastructure improvements to provide reliable and affordable internet access; increase in consumers’ trust for internet economy services; the ability for internet economy companies to attract talented professionals; the development of logistics networks able to handle the expected increase of e-commerce deliveries; widely adopted digital payment solutions to enable Southeast Asian internet users to transact conveniently online and offline; and, lastly, the availability of sufficient venture capital investments to fund internet economy companies in their expansion.



As highlighted earlier in this report, the availability of venture capital investments has rapidly turned from being a challenge for the Southeast Asian internet economy ecosystem to being one of its core strengths. Yet with the ecosystem turning three years old,¹⁷ we have also observed visible progress toward solving for the other five ecosystem challenges.

Growth enabled by faster and more affordable mobile internet access

In a region where more than 90% of the users connect to the internet via smartphones,¹⁸ the speed and affordability of mobile networks is critical for the development of a robust internet economy. While coverage is not yet fully reliable in rural areas, there have been significant improvements in infrastructure's speed, with Southeast Asian mobile carriers racing to roll out 4G mobile networks that now cover more than 50% of the users' connections¹⁹ in the six Southeast Asian countries covered in our e-Economy SEA research.

Meanwhile, mobile internet data affordability has also significantly improved. The cost of one gigabyte of mobile internet has more than halved relative to the income of Southeast Asians over the last four years. From exceeding 2% of gross national income (GNI) per capita in 2014, it accounts for less than 0.8% of the same measure in 2018,²⁰ and remains above the 1% mark only in the Philippines and Thailand.

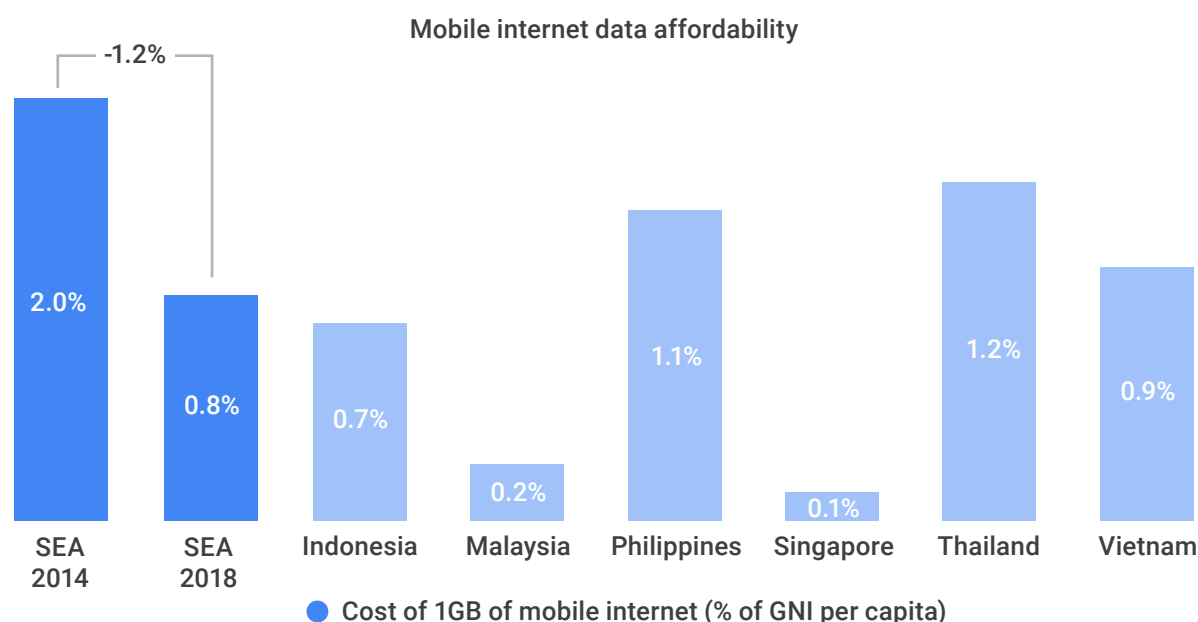
The cost of one gigabyte of mobile internet has more than halved relative to the income of Southeast Asians.

¹⁷Taking 2015, the first year covered in our e-Economy SEA research, as an arbitrary birthdate marked by the emergence of the first unicorns and by the first billion-dollar year in venture capital investments in the region.

¹⁸Google Consumer Barometer.

¹⁹GSMA, World Bank.

²⁰World Bank, carriers' websites.

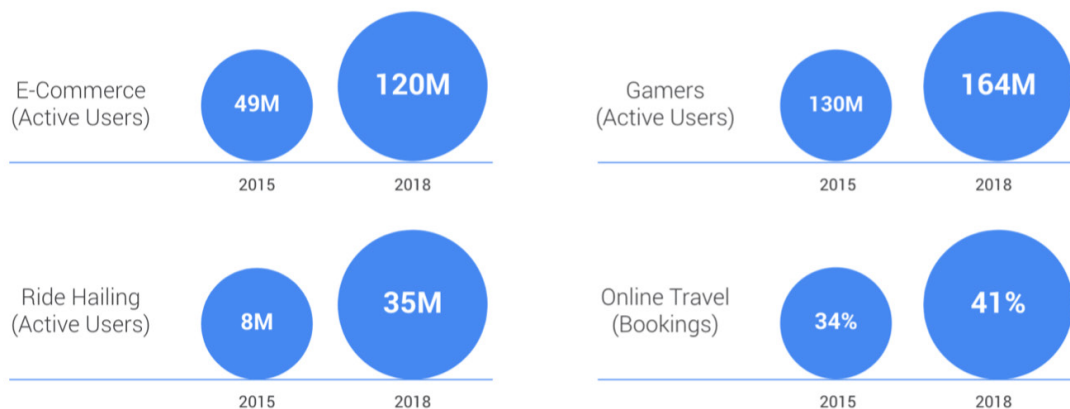


With continuous improvements in the internet infrastructure and mobile data affordability, the number of internet users in Southeast Asia has grown from 260 million in 2015 to 350 million in 2018, positioning Southeast Asia among the fastest growing internet regions in the world. Internet user growth is an underlying growth driver for the internet economy, a tailwind that is due to continue going forward amidst demographic and technological trends.

Consumer trust rapidly increasing across sectors

The internet economy relies heavily on consumers' trust to function, as online transactions are usually completed and often paid for remotely. Building consumer trust in the internet economy therefore requires time and efforts. After several years when the progress on this front has been incremental, Southeast Asia has hit an inflection point in 2018, with stepped-up consumer adoption across multiple sectors.

For example, we estimate that the number of Southeast Asians who have purchased online through e-Commerce platforms has increased from less than 50 million in 2015 to over 120 million in 2018. During the same period, the number of active users of Ride Hailing services has increased from 8 million to 35 million. Online gaming — the most popular internet economy sector among Southeast Asians — continues to gain popularity, with over 164 million Southeast Asians playing online in 2018 — up from 130 million in 2015. Online travel also continues to see a steady increase of travel bookings completed online — up to 41% in 2018 from 34% in 2015.



Despite the encouraging progress, there is work to be done for Southeast Asian internet economy players and institutions, as consumers' trust has not yet permeated into every sector of the internet economy. Some sectors in the early stage of development, such as Financial Services, Education, and Healthcare, are still hindered by a lack of trust and have not yet secured mainstream appeal.

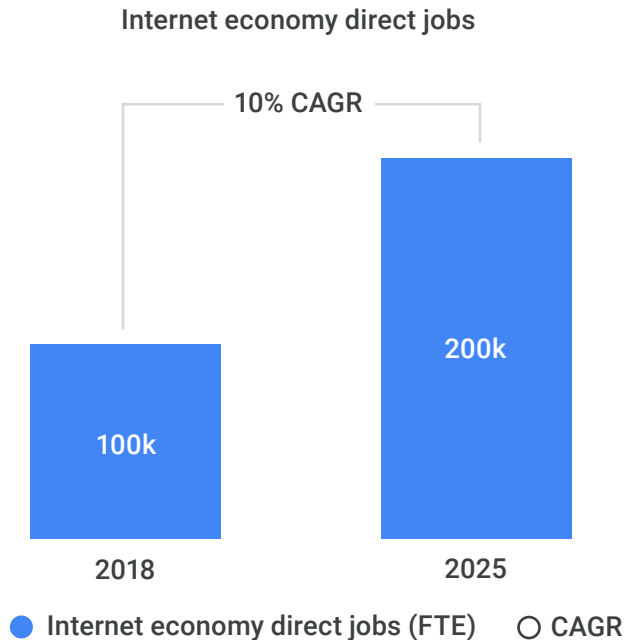
In an attempt to overcome consumers' reluctance, a growing number of internet economy startups are partnering with traditional economy players such as banks, insurance companies, universities, and medical institutions to jointly provide services online. At the same time, the most established internet economy players like Go-Jek and Grab are leveraging the trust secured for their core services in a quest to become Southeast Asians' "everyday apps," expanding into sectors like Financial Services.

A growing talent pool of internet economy professionals and partners

In our e-Economy SEA Spotlight 2017 research, we identified talent as the most critical and unresolved challenge for the development of Southeast Asia's internet economy. Initially faced with a shortage of suitable candidates, Southeast Asian internet economy companies have worked hard to recruit and develop a growing pool of talent across different functions.

The internet economy employs more than 100,000 highly-skilled professionals in Southeast Asia, a talent pool that is growing 10% per year.

In 2018, we estimate that there are over 100,000 skilled professionals employed in internet economy companies in the region across the four sectors covered in our e-Economy SEA research (e-Commerce, Online Media, Online Travel, and Ride Hailing). These include, for example, employees at Southeast Asian unicorns like Go-Jek, Grab, Lazada, and Sea Group; staff at many internet economy startups and ventures; and the Southeast Asia-based employees of global internet economy companies like Expedia, Facebook, and Netflix.

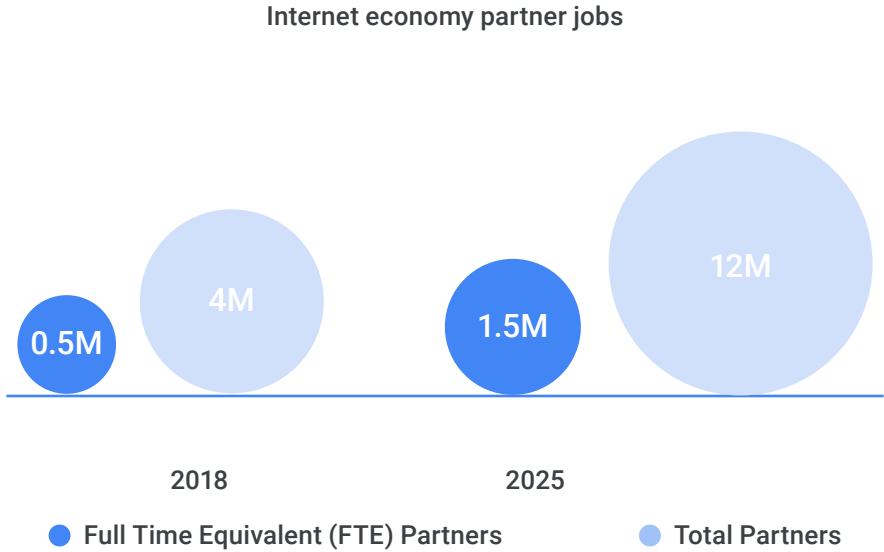


As these companies continue to grow their core businesses and expand into new areas, we estimate that they will need to grow their teams by more than 10% per year, significantly faster than the employment growth in the rest of the economy, which is averaging 1% to 3% per year in most Southeast Asian countries. Yet, the impact of the internet economy cannot be measured only in terms of absolute numbers. Internet economy companies employ highly-skilled professionals in functions like software engineering, digital marketing, data science, and product marketing that often command salaries 3X to 5X higher than median wages in Southeast Asian countries.

As they continue to build their teams, internet economy companies will increasingly seek productivity improvements across all functions. Reaping the benefits of scaled operations, continuing to nurture their talent through training and development programs, and unlocking improvements in business processes by applying machine learning (ML) and artificial intelligence (AI) techniques are just some of the areas of focus going forward.

As a result of these efforts, we expect that employee productivity (expressed here as GMV per employee) in the internet economy will improve from approximately one employee for every \$700,000 of GMV in 2018 to one employee for every \$1.2 million of GMV by 2025. This, in turn, will be a key ingredient in making the business models of internet economy companies more sustainable in line with the expectations of their investors and management.

In addition to their teams of professionals, internet economy companies are creating millions of jobs opportunities for partners across the region. e-Commerce logistics, Online Transport, and Online Food Delivery services already enrolled more than four million partners on flexible jobs schedules, equating to approximately 500,000 full-time equivalent (FTE) jobs.²¹ These are projected to increase 3X by 2025 in order to cope with the expected growth of these sectors.



These job opportunities have gained popularity due to two primary benefits. First, they offer partners the ability to work on their own schedules, whether that is full time or part time, or on their preferred days of the week and times of the day. Second, they offer opportunities for partners who want to supplement their income, for example, to cover part of the costs of owning or renting a vehicle. According to research by Ride Hailing players,²² partner jobs offer wages that are 20% to 30% higher than alternative job opportunities in each market.

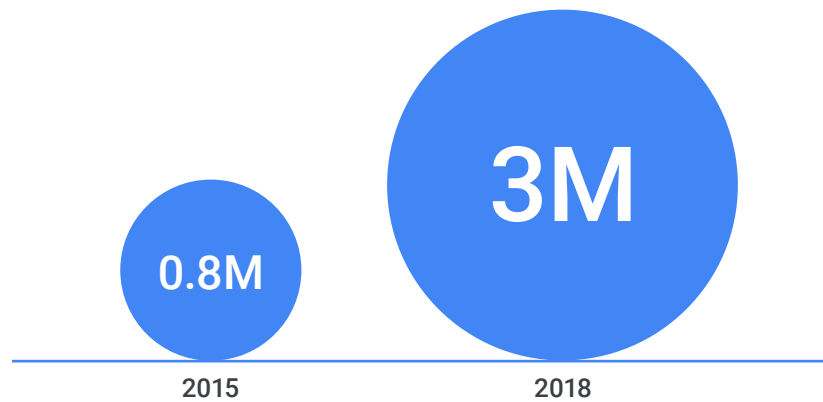
Improved logistics networks handling millions of deliveries every day

Another important enabler for the internet economy, in particular for e-Commerce sector, is the development of logistics networks that are able to cope with the rapid increase of deliveries, which have grown from about 800,000 per day in 2015 to more than 3 million per day in 2018 across Southeast Asia. With peaks of more than 3X daily averages experienced around shopping festivals like Singles Day, logistic networks in the region have faced huge challenges.

²¹ We estimate Full time equivalent (FTE) jobs as total order volumes divided by estimated average productivity (orders/hour) divided by 40 hours per week. FTE jobs estimated this way are not directly comparable with figures released by internet economy companies which comprise of the total number of partners on their platforms.

²²Go-Jek, Grab websites.

E-Commerce deliveries (daily)



e-Commerce deliveries have grown from 800,000 per day in 2015 to more than 3 million per day in 2018.

Multiple players have tried to turn these challenges into business opportunities. Some e-Commerce players, like Lazada Express and Redmart, have invested to develop their own logistics networks. Other e-Commerce players have elected to rely on third-party services, provided by well-established logistics companies like DHL, JNE, and Singpost or by startups like NinjaVan and J&T, which have built systems specifically catered to handle e-Commerce deliveries. Increasingly, many are offering same-day delivery capabilities in metro areas as a differentiator to win consumers' preference and to unlock opportunities in categories like fresh groceries.

Usage of digital payments still low amidst fragmented offering

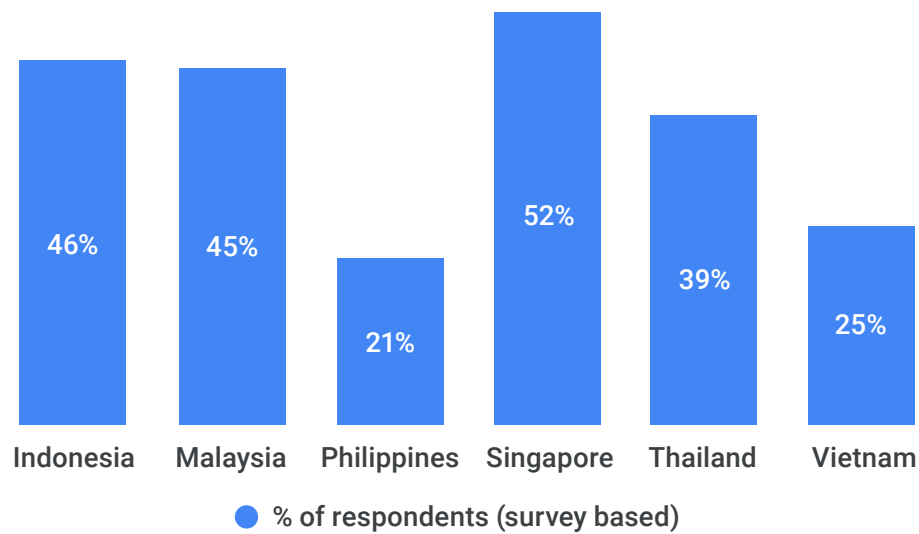
The last challenge constraining the growth of the internet economy in Southeast Asia identified in our previous e-Conomy SEA research was the insufficient adoption and usage of digital payment solutions.

Less than one in two internet users in Southeast Asia has adopted digital payment services.

A recent Google Survey suggests that less than one in two internet users in Southeast Asia has adopted digital payment services, with adoption as low as one in five users in the Philippines and one in four users in Vietnam.²³ Digital payment services account for an even smaller share of the overall transaction values, anecdotally in the low single digits for most internet economy players. That is remarkably low when compared, for example, with China, where digital payment solutions like Alipay and WeChat Pay have gained ubiquitous usage among both online and offline merchants.

²³Google Surveys, Q2 2018.

Digital payment services adoption



This has hindered the growth of digital goods such as Gaming and Subscription Music & Video on Demand, with most Southeast Asian internet users still favoring free or advertising supported alternatives, despite being open to pay for the services if more convenient digital payment solutions were available. On the other hand, for physical goods, while all leading e-Commerce players in the region accept payments via cash on delivery, this comes with friction and costs for both users and for e-Commerce players, which face a higher proportion of cancelled orders and incur higher charges by delivery companies.

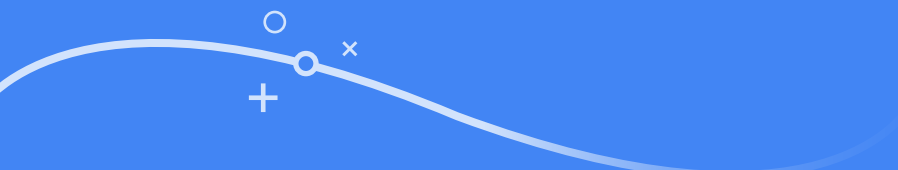
Recognizing the need for widely accepted digital payment solutions in the region, many companies have invested to build their own over the last several years. In order to incentivize adoption among users, these players are offering loyalty programs and rewards schemes, democratizing benefits that are otherwise typically only available to credit card users.

- Ride Hailing companies have made digital payments a cornerstone of their strategy to become the “everyday apps” of Southeast Asians, launching their own digital payments solutions like Go-Pay and GrabPay. They have also actively partnered with startups operating in this space, such as Kudo and Ovo in Indonesia, recognizing the opportunity to leverage existing networks of agents and merchants as well as the need to secure regulatory licenses to operate.
- Leading telecom carriers across the region have continued to promote their own e-wallets and digital payment solutions, including t-cash by Telkomsel in Indonesia, GCASH by Globe in the Philippines, and TrueMoney by True in Thailand.

- Southeast Asia's largest banks have also been active, launching and promoting their own digital payment applications connected to existing banking relationships, including DBS PayLah! in Singapore and Mandiri e-money in Indonesia.
- Global tech companies are progressively rolling out their digital payment solutions among Southeast Asian users and merchants. These include Apple Pay, Google Pay, and PayPal as well as Alipay and WeChat Pay.

This fragmented landscape of digital payment solutions, which are not compatible with each other and still lack widespread merchant acceptance online and offline, may explain the persistent lack of mainstream adoption by Southeast Asian internet users.

How to solve for that? Policies that promote common standards and interoperability as well as partnership between the leading players could help to address this remaining challenge. Digital payments could then become a gateway toward online financial services, like money transfers and remittances, personal lending, investments, and insurance products, which are likely to become an area of in-depth research for our e-Economy SEA research in 2019 and beyond.



e-Conomy SEA 2018

Southeast Asia's internet economy
hits an inflection point

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