



Whitepaper:

Understanding the role of
Payment Gateways in
Indonesia's digital economy

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Indonesia is forging its own path towards a society that's less dependent on cash. The evolution of cashless payments systems in this country is unique because Indonesia is highly decentralized, traditionally has low credit card ownership and has made a quick leap towards mobile internet adoption. However, cash, bank transfers and over the counter transactions are still the dominant payment behaviors.

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Most commonly associated with the ecommerce sector, Payment Gateways help online businesses collect payments from shoppers by making it easy to connect with different banks and payment channels with one software integration.

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They are an accelerator to the digital economy and particularly relevant for young businesses. Payment Gateways can quickly adapt to service new niches and new payments trends. They can evolve to offer more features like fraud detection.

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Payment Gateways service a variety of ecommerce payment scenarios, like instant payments or subscription payments. They are ideal to support micro, small and medium enterprises in their digitization.

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Indonesia is entering a phase of tightening regulation for payments processing. The industry welcomes clarity and oversight, but also fears a stifling of innovation. Especially new entrants and startups suffer from the long and costly processes needed to achieve compliance.

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Indonesia's regulations around payments processing are perhaps best comparable to India. However, there are differences in approach, mostly in the way payments processing business models are described.

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PGs are necessary in an effective digital economy and accelerate its growth. The PG model will continue to diversify and find new niches and ways of servicing different types of payments needs and related services.

Foreword

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Indonesia's

payments landscape is in a phase of rapid transformation and can be difficult to comprehend for outsiders looking in. This paper was initiated by the Indonesian Fintech Association (fintech.id) to offer an overview of the cashless payments landscape in Indonesia and the specific role of Payment Gateways within it.

The insights are based on results from a workshop held in Jakarta in July 2018 and in-depth interviews conducted with financial technology companies (fintechs), banks, and law experts.

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Introduction:

A brief history of cashless payments in Indonesia

Indonesia is undergoing a rapid transition from a predominantly cash-based society to one where cashless transactions are becoming more common and more people are gaining access to banking and other financial services.

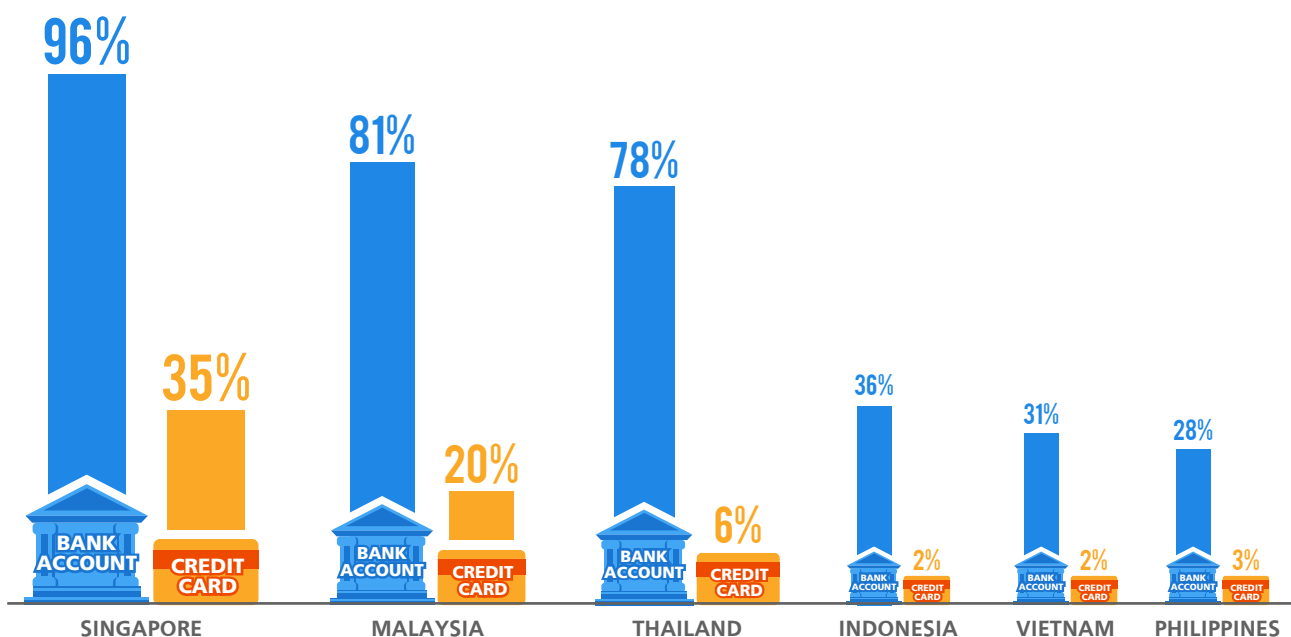
Multiple stakeholders have an interest in making this transition happen: banks benefit from a growing customer base. For the government, cashless transactions promise more transparency and ways to enforce tax collection and fight corruption. For consumers, banking services and cashless transactions offer convenience, security, and new ways to invest, or access credits and loans.

Overall, Indonesia is making progress as more and more people have access to the formal banking system.

In the World Bank's last official account¹, 48.9% of people 15 years old or above had bank accounts. This figure has drastically improved since the 36.1% that were measured in 2014. Initiatives to extend the reach of bank branches even to rural customers have had some effect. However, Indonesia still lags behind peers like Thailand, Malaysia, and certainly Singapore when it comes to the distribution of cashless payments instruments, in particular payments for goods and services purchased online.

Indonesia historically has had a low rate of credit card ownership, lower than most other countries in Southeast Asia with an estimate of only 9 million unique credit card holders in the country. Debit cards on the other hand are quite common, with an estimated 152.6 million currently in circulation².

The caveat is that there's a lack of acceptance points for debit and credit cards. While it's possible to pay with cards in established businesses and chain retail stores, small businesses often do not have that option. Debit cards are also only very slowly finding acceptance as a means for online payments.



Credit Cards in South East Asia. Source: Global Findex Database 2017, World Bank.

1 <https://globalfindex.worldbank.org/>

2 <https://www.bi.go.id/statistik/sistem-pembayaran/apmk/contents/jumlah%20apmk%20beredar.aspx>



Digital Training for MSME by Ministry of Foreign Affairs and Google. Photo Credit: Ministry of Foreign Affairs

When the internet first started taking hold in Indonesia, a system of online payments evolved that relied on trust. Shoppers would pay in advance and send the seller a proof of payment, or the seller would send the product and let the shopper pay in cash. Fairly widespread was also a system of vouchers - where a shopper pays over the counter to receive a code that can be redeemed for online purchases.

These systems rely on manual labor and are error-prone. Even so, it still excluded many micro, small, and medium enterprises (MSME), which were operating offline and hadn't adopted any digital systems for bookkeeping or customer service.

By the government's own acknowledgement, MSME form the backbone of Indonesia's economy. Official figures from 2016 claim that MSME contribute 60% to Indonesia's GDP and account for 107 million jobs, although these are mostly informal workplaces and many of these enterprises do not pay taxes.

Increasing the productivity of MSME, which includes introducing them to banking services, cashless payments, and digital tools to help them grow - and eventually become tax-paying entities - constitutes a long-term strategic government goal³.

With the advent of the mobile internet and a broad acceptance of smartphones the pace of this development has been immensely accelerated.

Indonesia's traditional banking sector, given the size and geography of the country, is limited in its ability to reach everyone.

This means mobile banking and the alternative financial services offered by non-bank financial companies

are more than an added convenience for Indonesia. They are tools that can significantly contribute to the country's economic development.

Most importantly, Indonesia has to forge its own path when it comes to shaping and applying these tools in its move towards a cashless society.

Models from other countries won't fully apply here. In the US for example the path to cashless payments was entirely different. The internet was widespread long before smartphones and the mobile internet came along, and almost every household has a credit card to use for cashless transactions. That made the need for mobile financial services much less pressing.

China could offer a model for mobile payments, but its highly centralized government, relatively homogenous culture, and more advanced economy created a vastly different landscape compared with archipelagic Indonesia and its diverse languages and cultures.

Much of the existing literature, at least in English, describes the evolution of cashless payments from a western-centric viewpoint, which has the effect that the common models and phrases used to discuss payments are based on a scenario in which credit card payments are common.

In addition, the speed of change occurring for example in areas like mobile payments in emerging economies is unprecedented, with innovations happening at once and a regulatory environment that's playing catch-up with what's happening on the ground.

While this is a potential tipping point in Indonesia's development, it also creates a degree of complexity that can be confusing, especially for outsiders looking in.

This paper tries to take that into account as much as possible and tries to provide local context where necessary.

³ http://www.ilo.org/jakarta/info/public/pr/WCMS_561816/lang-en/index.htm

What are Payment Gateways?

In this paper, we are exploring the role of Payment Gateways in Indonesia's digital economy - a business model that sits within the diverse landscape of entities necessary to facilitate cashless payments.

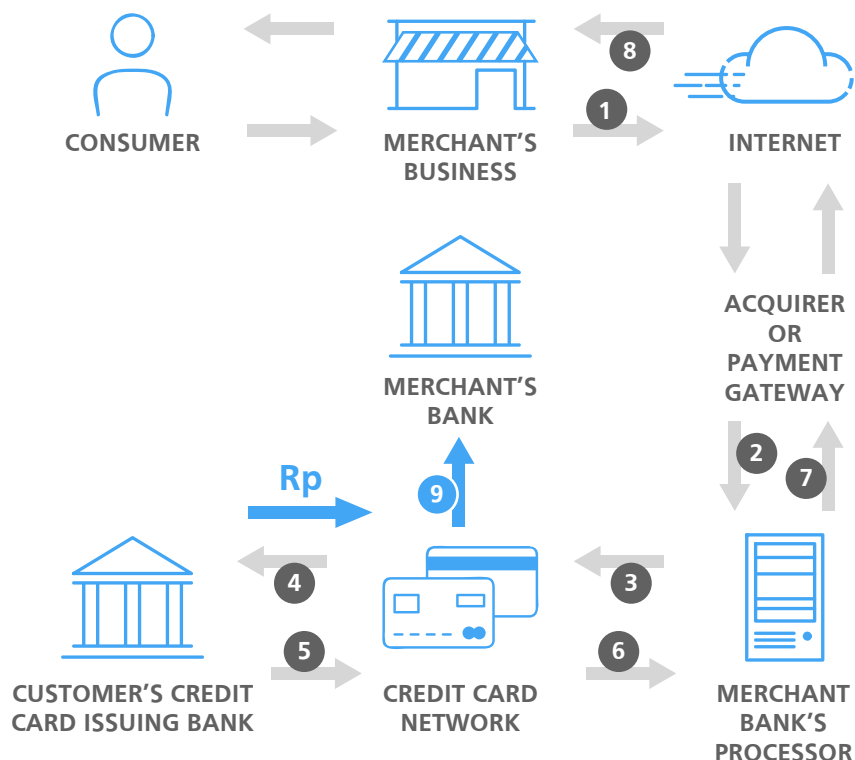
As we have discussed, much of the accessible literature on the history of cashless payments tends to take a Western-centric viewpoint, and the same is true for Payment Gateways (PG).

PGs are now most commonly associated with the era of ecommerce. The page that lets you input your credit card details or choose from a number of other payment options when you want to complete an online purchase is typically created by a PG.

It's often a third-party application the online merchant does not develop himself/herself, because payments processing requires high levels of security and reliability. Hence, this process is outsourced to a third party PG who specializes in this service.

In their most basic form, PGs would have been optimized to help online merchants accept credit card payments - because that was the most convenient and secure way to handle online payments in the US at the time this model was popularized.

In a simplified way of putting it, the PG is integrated into the merchant's online shop. It receives and transmits information from the online shopper and forwards it to a Processor, such as a credit card institution. After the green light is given that the data checks out, the Processor forwards information to the merchant's bank and the shopper's bank.



Credit card payment transaction.

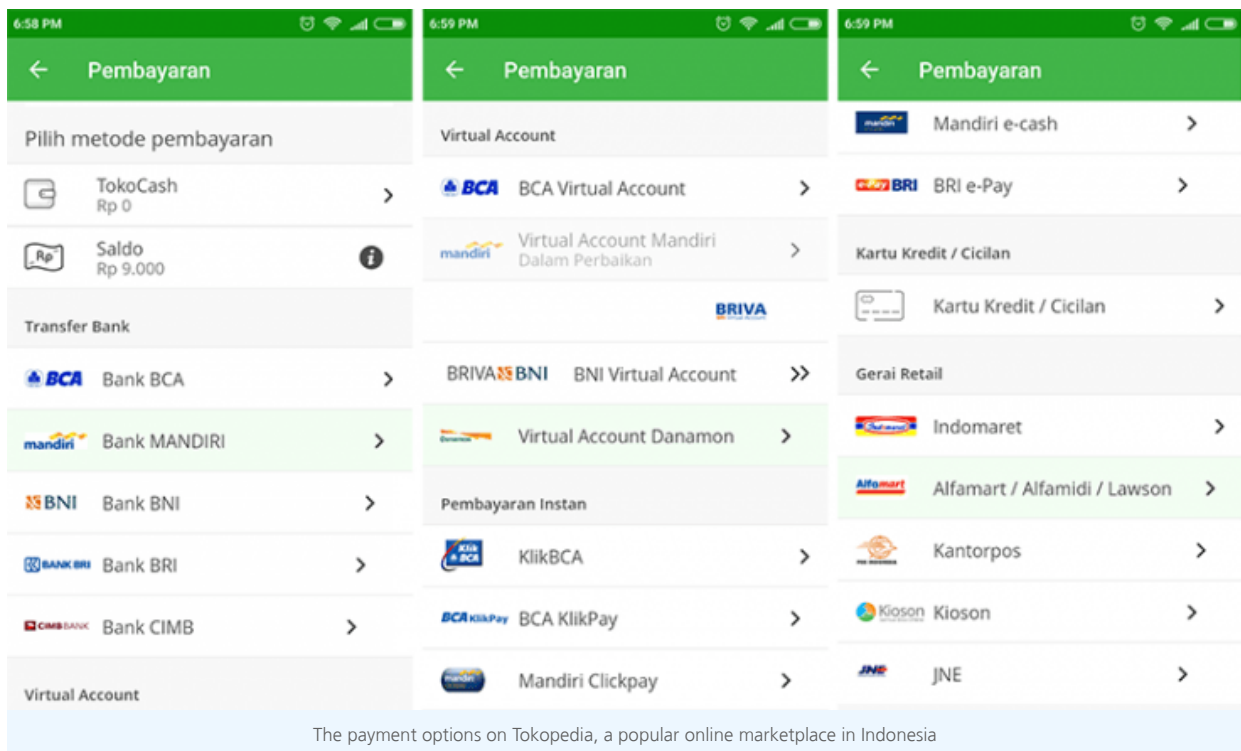
Source: https://www.secureclub.net/Help/acm/UG/ug_Ccard_gateway.htm

There are some differences when it comes to how PGs handle merchant accounts. Some collect merchants under one account before linking up with the banks - this is the so-called aggregator model. There are PGs that connect each merchant directly with the banks - these are called facilitators.

The PG becomes more useful the more payment methods it accepts. This can cover different types of credit cards and debit cards from different networks, or online banking where you log in with username and a password to complete the transaction. But this can also expand to entirely different payments instruments, for example mobile money.

It depends on what types of payments are popular in a specific market. In the case of Indonesia, PGs have evolved to accept bank transfers from multiple banks and even so called online-to-offline or over-the-counter transactions, where the interface instructs the shopper to go to a physical store to make the payment in cash, or via an ATM, after which the online transaction is completed.

Checkout pages with an overwhelming amount of payment options are common sight in Indonesia.



PGs, in short, make payments collection for merchants and shoppers more convenient and safer. Instead of negotiating the terms of collaboration with each bank and payment channel by themselves, merchants get access to all of them in one go. That's particularly relevant for MSME who don't have the size and the resources to establish individual relationships with banks.

From the perspective of banks, PGs are a way to mitigate risk. Instead of working with millions of individual merchants and letting them connect to their systems directly, banks can work with trusted PG and let them work out how to target merchants in different niches.

A broader view on Payment Gateways

After this general introduction of PGs, it's important to mention that companies who do not first and foremost facilitate online shopping transactions may also act as PG.

Technology companies that facilitate cashless payments offline also fall into this bucket. In Indonesia, an example would be companies that create the terminals you tap a prepaid card on to deduct the fare as you pass through a toll road gate. These are also PGs, but they operate in a different ecosystem.

Furthermore, as the cashless payments landscape consists of many entities and each payment passes through different steps, each of those steps can also be seen as a "gate," and the companies facilitating them could be considered a PG or self-classify as a PG.

Here's an overview of companies that self-classify as PGs in Indonesia, from data provided by the Indonesian Fintech Association. They all deal with cashless payments to some degree, but might not fit into the narrow, ecommerce-optimized definition of PGs as we have described them in the beginning of this chapter.



There's an additional element of confusion in the terminology in Indonesia, where regulators are currently working on the implementation of a so-called "National Payment Gateway" (locally known as Gerbang Pembayaran Nasional, or GPN).

The GPN refers to an infrastructure for cashless payments that sits below the consumer-facing side of payments transactions. Its aim is to increase interoperability between banks in the country, and to keep payments processing within national borders instead routing them across international payments processors. Although the GPN, once fully implemented, will affect the way PGs connect with the GPN infrastructure, the GPN itself is not subject of this paper.

The role of

Payment Gateways in the digital economy

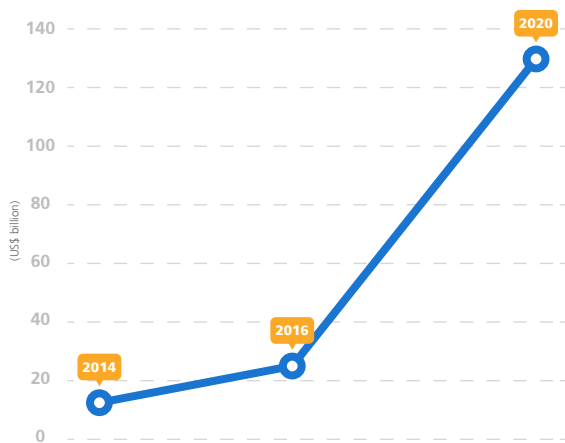
As we have seen in the previous chapter, with a broad definition, PGs sit pretty much everywhere in the cashless payments ecosystem, whether for online payments, prepaid, or credit card payments.

Even if we narrow it down to PGs in the context of online shopping, there are still a variety of different applications and business models to consider, and their impact on the digital economy is immense.

PGs help online merchants speed up the process of collecting payments, and they serve banks by helping them mitigate risk and capture a much larger pool of merchants.

There are different projections for the development of Indonesia's digital economy:

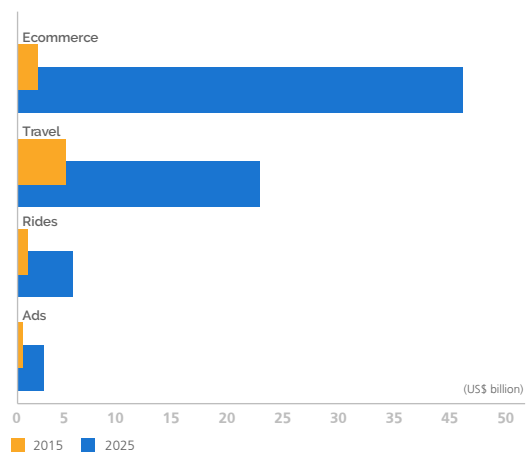
The government's own estimate sees the collective worth of Indonesia's online transactions grow from about US\$12 billion in 2014 to US\$130 billion by 2020⁴.



Government estimate of e-commerce transaction volume in Indonesia

An estimate from a 2016 study conducted by Temasek and Google says Indonesia's digital economy was worth under US\$10 billion at that time, and projected it to grow to US\$80 billion by 2025⁵.

In contrast to the government projection which does not offer a more detailed breakdown of the numbers, the Temasek/Google report more narrowly defines the digital economy as covering ecommerce, online travel, ride-hailing, and digital advertising.



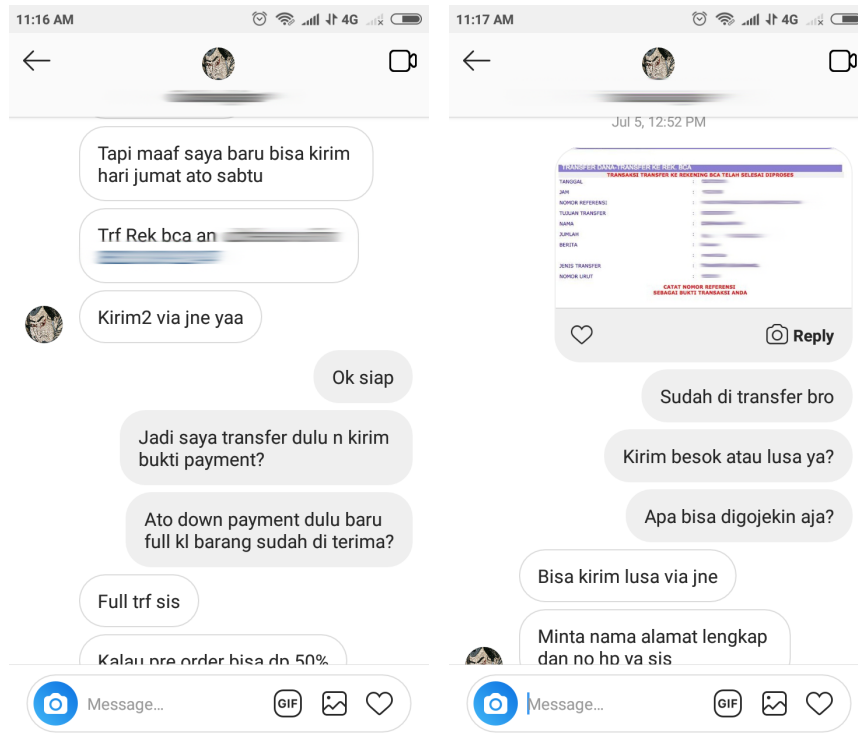
Google/Temasek estimate of the size of Indonesia's e-economy sectors (from 2016)

In both scenarios, the projected figures are unlikely to be achieved if there's no push towards further adoption of cashless payments in Indonesia, and if it weren't for PGs to speed up the process.

Consider the thousands informal sellers who use social media like Instagram or Facebook to reach customers. On one hand, they have proven that they can manage transactions purely based on trust. If you like an item you see on an Instagram shop, you would chat with the merchant, ask for payment details, make a transfer, send the merchant a proof of transfer, and hope the merchant lives up to their end of the bargain and sends the item.

4 <https://in.reuters.com/article/indonesia-retail-idINKCN0WA0D4>

5 <https://www.techinasia.com/google-temasek-ecommerce-data-indonesia>



Typical payment process on Instagram. Bank details and proof of payment are sent via chat

It's estimated that about a third percent of ecommerce transactions happen this way⁶. While this is effective and easy for sales at a very small scale, the system is prone to fraud, and becomes difficult to maintain for higher priced items and once order volumes grow.

There's an additional caveat in Indonesia. The country has over 100 commercial banks, and transferring money from one to the other can result in high fees. That means if your customer's account is at a different bank than yours, he or she may balk at the transaction fees and you lose an order. Operating this way limits the growth potential of these budding businesses.

At the other end of the spectrum sit merchants who are selling online at a very high volume, and know their market and their customers' payment habits well.

At that stage, it might make sense for them to work on their own bank integrations instead of funneling transactions through a PG. However, this is costly and requires being able to develop applications that adhere to global security standards. This approach also requires putting resources into it continually, because payment habits change and new payment channels must be added so serve customers - especially in Indonesia, where payment habits are changing rapidly.

The role of Payment Gateways in ecommerce

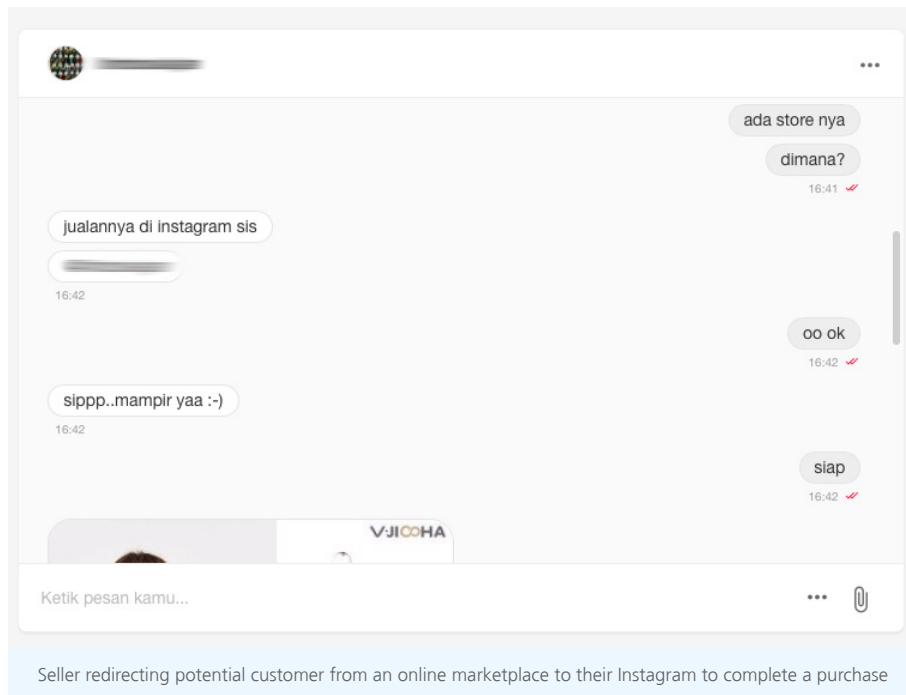
We have already discussed the role of PGs in online shopping transactions, as this is the most common use case.

We can break it down further into different online shopping scenarios. Let's get back to the micro merchants who sell informally through social media.

If you've done online shopping in Indonesia, you'll notice that sellers switch fluidly from one platform to another. Some prefer finding customers on Instagram, and direct them to Tokopedia to complete the purchase. In effect, they are using Tokopedia as a PG.

It also happens the other way round: Sellers run a shop on a marketplace like Bukalapak or Tokopedia, but then invite interested customers to their Instagram channel to discuss and complete the purchase manually.

⁶ <https://www.techinasia.com/indonesia-ecommerce-online-shopping-2014>



This goes to show that both social engagement and a more trustworthy payment mechanism are important to sellers, and they cleverly arrange their sales process in a way that works best for their business.

As a next step beyond social selling or online marketplaces like Tokopedia, where there are few options to customise the appearance or the user experience, merchants could try using ready-made software like Shopify or Jarvis Store to create an online store. This type of software is typically cloud hosted and already comes with the necessary features an online shop needs, including a checkout and payments process, but is designed so that you can alter the appearance and make the whole shop more suited to your brand.

Jarvis Store for example, developed by an Indonesian tech startup, lets customers choose their online store layout from a variety of templates that can be further customized. It includes multiple payment options (here, Jarvis Store offers plugins created by various third party PGs), and other online merchant features like sales statistics and reports.

J **JARVIS STORE**

[FITUR](#) [KLIEN](#) [HARGA](#) [TEMPLATE](#) [POWER UP](#) [KONFIRMASI PEMBAYARAN](#) [LOGIN](#)

TOKO ONLINE PROFESIONAL

Jarvis Store akan membantu anda memiliki toko online profesional seperti merek-merek terkenal dengan harga yang terjangkau.

LIHAT VIDEO PERKENALAN

TINGKATKAN OMZET DENGAN TOKO ONLINE DIMANAPUN BERADA

Jadilah penjual modern yang praktis, dinamis dan dikagumi yang mampu mengelola bisnis dari mana saja dan kapan saja.

Get it on
Google play

Jarvis Store, an Indonesian company that offers ready to use web templates brands can customize to start selling online

If merchants want an even more customized experience and are willing to invest, they can develop their own branded online shop, which is then completely self-managed. But this requires technical skills, and merchants would still need to make a decision about how to handle payments and most likely work with a third party PG to solve that problem.

As online shopping scenarios continue to evolve diversify, so do PGs.

Consider merchants who want to offer subscription-based services and other recurring payments. This requires a different kind of user interface, and must guarantee safe storage of the shoppers' payment information.

PGs can also extend their services to facilitate the reverse of incoming payments, for example in the case of refunds, where a payment made by a shopper eventually has to find its way into the shoppers' bank account. These cases, if handled by an online seller manually, are extremely time consuming, error prone and can result in a negative experience for the online shopper who then might not return for future purchases - a lost opportunity for the online seller.

To address specific payment needs, lets say accepting international credit cards versus highly localized forms of payment, like over-the-counter at partner stores, one online shop can work with multiple Payment Gateways. The different gateways are then integrated into a unified user experience. This is not uncommon, especially for larger ecommerce platforms.

The role of Payment Gateways in peer-to-peer lending

While ecommerce makes up the most visible part of the digital economy, the rising sector of online lending factors into it, too.

In so-called peer-to-peer (P2P) lending, people can lend each other money through an online platform. For borrowers it's an opportunity to get cash when it's needed, for example to expand a business or pay a hospital bill. For lenders, it's an investment. They expect to be paid back with interest on top.

P2P lending, while still in its infancy, is expected to grow in relevance in the coming years. Again, it's to fill a gap that should be beneficial mostly to micro-and small businesses who might be too small to be eligible for a loan from a bank.

The Asian Development Bank estimates there's a US\$67 billion credit deficit in the country, meaning the national demand for credit is outpacing banks' ability to provide it. The World Bank and IFC went even further by estimating a US\$ 166 billion SME lending gap in Indonesia, which is as much as 19% of the country's GDP.⁷

Regulators are keeping a close watch on this space to prevent fraudulent players from taking root. Meanwhile, some of the pioneering P2P lenders that have complied with regulations are beginning to see traction, like Investree and Modalku.

In P2P lending, funds are collected from those willing to lend money and disbursed to borrowers, like small business. Borrowers typically pay back in installments, and these eventually reach the lenders bank account.

P2P platforms would want to make payment as easy as possible for borrowers, and keep transaction fees low no matter what bank or channel lenders and borrowers prefer. This complex transaction system can be supported by PGs.

In an environment where integration with multiple banks could take substantial amount of time, many P2P platforms prefer working with PGs so that they don't have to establish individual link ups with banks and can focus on other aspects of their business.

Working with PGs can also benefit P2P lending by creating the types of cash management products that are required by lending regulators - such as virtual accounts and escrow accounts.

However, P2P lending is not regulated by the Central Bank and falls under the purview of a different regulator, namely the Financial Services Authority of Indonesia (OJK).

OJK's regulations do not explicitly reflect the role of PGs in lending. The existing regulatory environment hence hasn't yet fully leveraged PG to facilitate P2P lending transactions -- a topic we'll explore further in Chapter 6

⁷ <http://documents.worldbank.org/curated/en/653831510568517947/MSME-finance-gap-assessment-of-the-shortfalls-and-opportunities-in-financing-micro-small-and-medium-enterprises-in-emerging-markets>

Different

models of Payment Gateways in Indonesia

PGs are already important enablers for ecommerce, and they are finding a new niche in the rising sector of P2P lending. And there are other types of PGs serving individual payments ecosystems - they may not even be considered PGs if a very narrow description is applied.

Here's a look at some of the different types of companies in Indonesia that are PGs and/or offer PG-like functions.

Example: Aino

a PG for micro-payments on the road



Aino has its origin in the Indonesian university town Yogyakarta and specializes in creating acceptance terminals for prepaid cards in public transportation and toll roads.

These are cards customers can pre-load with a certain amount and then spend by tapping it onto these card terminals. The process doesn't require any internet connection and is done within seconds, which makes it particularly suited to micro transactions on the go, such as public transport fares.

The cards are mostly issued by big banks. Mandiri E-Cash and BCA's Flazz are the most prominent examples of this in Indonesia.

Aino can be seen as a PG because it aggregates and integrates multiple cards on its reader devices therefore acting as a "gateway" between issuer and cardholder.

Example: Cashlez

enabling cashless payments in small shops



Cashlez is similar to Aino in the sense that it is an interface with shoppers in the real world. But it's not optimized for micro-payments from prepaid cards for public transport fares, its card reader device is built to accept different types of debit cards and credits cards for payments in restaurants, shops, or hotels.

It caters to businesses that are too small or are otherwise outside of the reach of the bank's networks that normally distribute and manage card reader devices.

Cashlez device is easier to install and mobile, which means it can also be carried by people who are selling or collecting fees on the go, for example at warehouses, or for down payments in real estate.

Example: Midtrans

one of Indonesia top PG players in ecommerce



Midtrans is one of the major PGs that specialize in ecommerce transactions. It's now a part of Indonesian tech company Go-Jek after it was acquired in 2017, along with another payments company, Kartuku, making Go-Jek one of the local companies that can offer a variety of payments schemes based on different licenses it now combines under one roof.

Midtrans offers merchants a software package that is easy to integrate into their online store and sets them up with multiple collection options, such as through credit cards, bank transfers, or "over the counter," which refers to the payment method described in Chapter 1, where customers can pay in cash at a partner store. Midtrans has also evolved to allow merchants to integrate mobile wallets such as Go-Pay into their range of payments options.

In addition to this standard PG functionality for collecting payments, Midtrans offers additional services like fraud detection and a separate software package called Iris that simplifies the way merchants settle their own outstanding payments, for example for refund management.

It allows you to disburse payments to any bank accounts in Indonesia and comes in two business schemes. Partners can either have a deposit account at Midtrans that can be topped up from time to time using various channels. Any payout/disbursement will be done from this deposit account as the source of fund. This makes makes for faster onboarding process.

The other option lets merchants use their own bank account as the source of funds for disbursements through a direct link with the other banks' APIs. This, however, requires a more complicated onboarding and account registration process for the merchant.

Example: Doku

another top ecommerce PG in Indonesia



Looking back on a long history of cashless payments in ecommerce, Doku, along with Midtrans, is one of the most established players in this arena.

Like Midtrans, Doku offers services that help online merchants collect payments from customers, but has a separate package for disbursement.

Next to small-and-medium businesses, Doku also has many large corporate clients. It's the local partner for Adyen, one of the big international payment service providers.

Example: Xendit

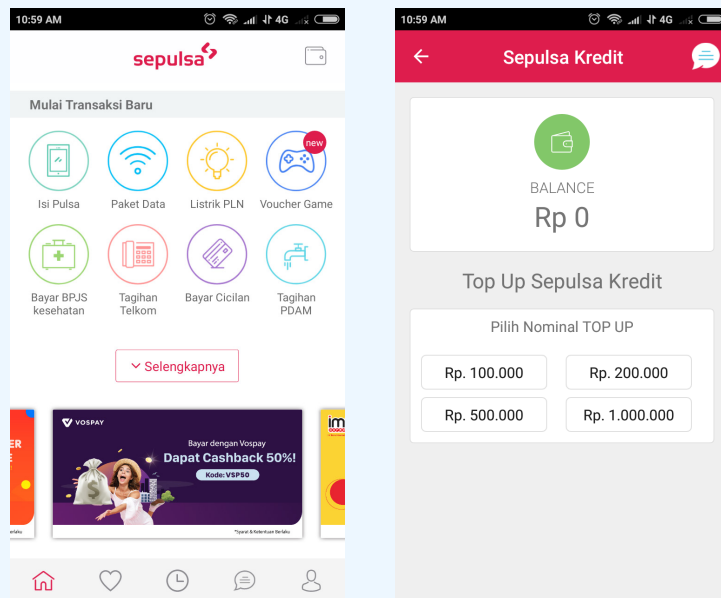
a PG servicing the P2P industry



Xendit is in many ways a traditional PG like Midtrans and Doku, though it launched in Indonesia a little later than those two. It picked its niche in servicing P2P lending platforms, but works with ecommerce companies as well. Xendit addresses a variety of specific payments needs, such as subscriptions and loan repayments.

Example: Sepulsa

a PG specializing in bill payments



Sepulsa grew out of a specific niche, which was to help mobile phone users top up their phone credit. An overwhelming majority mobile phones in Indonesia are prepaid⁸. This means their owners are not on monthly plans, but fill up their phone credit and purchase data packages whenever they run low.

In the past, you would have to go to one of your carrier's partner stores to get your top up and pay in cash. Sepulsa developed an app where you enter your phone number. Once it has recognized your carrier, you choose the phone minutes and/or data plan your need, and pick a payment option. Sepulsa offers payment by credit card, debit card, and banks transfers - which makes it akin to a PG.

Sepulsa has since diversified and now also allow bill payments for electricity, water, health insurance, and other recurring costs.

⁸ <http://www.analysismason.com/Research/Content/Comments/Postpaid-migration-EMAP-RDRPO/>

How

businesses work with Payment Gateways

Case Study: Zalora

Zalora specializes in fashion ecommerce and operates across Southeast Asia. It was established in 2012

Zalora only started working with a PG at the end of last year. Before that, it had relied on a manual process for accepting and verifying bank transfers and offered a cash-on-delivery option, where the shopper pays once the package arrives.

Zalora's approach has been to take on new payment methods slowly and cautiously, waiting for them to find mainstream adoption first before integrating them. The ecommerce company has mostly a middle-class urban clientele, and fashion products are not necessarily bought at high frequency - that puts Zalora in a position where it does not have to cater to every possible payment option possible.



ZALORA



investree

Case Study: Investree

Investree is one of the firms active in the budding P2P lending sector. It offers a variety of lending models for individuals and small businesses, but the basic concept is the same for all: A lender pays the amount to Investree, and Investree forwards the loan to the borrower who repays in installments with interest rate on top.

Investree collaborates with PGs in different ways. It needs a PG to assist with the collection process, so that it's made as simple as possible for borrowers to return their installment when it's due.

Investree also works with a PG on the lenders side. Lenders all have different bank accounts, and in this case the PG aggregates those accounts. This means Investree does not have to connect with those lenders directly, but does this via the PG.

The current

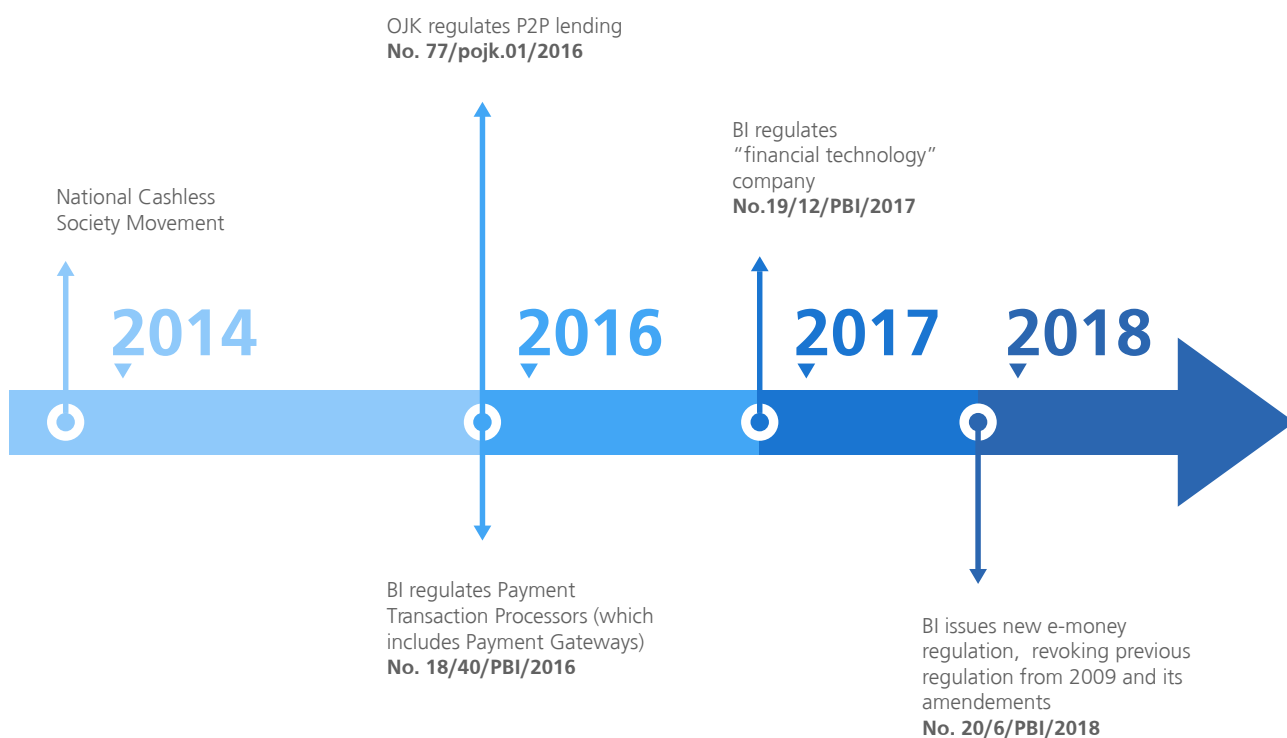
state of regulation

Financial technology and payments service providers, besides those that have co-existed alongside the traditional banking ecosystem for decades, are still fairly new in Indonesia.

A fintech boom has begun to take place ever since mobile internet became mainstream. The boom also has to do with an influx of venture capital, especially into the ecommerce sector.

Hence, attempts to regulate the space are also still in their infancy. The main regulators involved are Indonesia's Central Bank (Bank Indonesia (BI)) and the Financial Services Authority (OJK). BI governs everything that has to do with payments instruments and the underlying payments infrastructure. OJK regulates financial services like loans.

Here's a timeline of the important recent regulations that affect the different entities within the payments landscape:



Overall, firms in financial technology can expect to operate in an increasingly stricter environment, as regulators and banks are adopting a cautious approach and are starting to enforce the regulations they laid out. BI recently had a change in leadership, but its new chief is expected to stay on the course set by his predecessor.

As mentioned in Chapter 2, Indonesia has established a National Payment Gateway (GPN), a multi-tiered plan that requires banks and non-bank payment institutions to cooperate more closely, for example by sharing ATM infrastructure, electronic data capture (EDC), and ensuring interconnection and interoperability of payment channels. In the long term, PGs will be required to link up with the GPN, but it's an integration that doesn't necessarily affect merchants and online shoppers directly. It may shift fee structures, so that inter-bank transfers within the country become cheaper. The GPN also requires all domestic electronic transactions to be processed through the GPN in order to ensure that more transactions are processed within Indonesia.

Payment Gateways models recognized by Indonesia's Central Bank

The rules for PG companies are mostly defined in the Indonesian Central Bank regulation on Payments Transaction Processors from 2016 (No.18/40/PBI/2016).

It introduces PGs with a general definition: "Payment Gateways are an electronic service that enable merchants to process payments transactions using payments instruments by using cards, electronic money, and/or Proprietary Channels." In the footnotes, it describes two distinct models: Aggregator PGs and Facilitator PGs. As briefly described in Chapter 2, the main difference between these models lies in where the merchant data sits.

In the aggregator model, the PG takes an active role as a mediator of the transaction. It collects the relevant payments data from its merchants and then sends it to the bank from its own account. The bank only has a relationship with the aggregator, not all individual merchants the aggregator has signed up.

The facilitator PG is slightly different. It helps set up individual accounts for each merchant with the banks. In this case, the PG facilitates the payment transaction from the merchant to the bank, but the bank also has a direct relationship with the merchant.

Under OJK's P2P regulation, direct connections with the bank are mandatory, which means PG in this space should operate only with the facilitator model.

This relatively narrow description of PGs makes them similar to an already existing model that dates back to the pre-e-commerce era: that of a so-called merchant acquirer. These are entities that took up the role of helping merchants get set up with merchant accounts at banks long before more technically sophisticated PGs came along.

Some challenges for Payment Gateways

The Indonesian Central Bank (BI) regulation that covers PGs (see above) was introduced in 2016.

Companies who have operated PGs prior to this have been doing so in a fairly unregulated environment and now find themselves in the position of having to adapt to achieve compliance.

To this date, mid-2018, BI has only issued seven licenses specific to the PG model⁹, which is a subcategory of entities classified as Payments Processors. Several more entities are in the application process.

What's been a challenge to some payments companies is the response speed to applications. The process to get appointments and document approvals can take weeks to months, which is a significant setback for companies, especially new entrants. For larger companies that have a history in other payments-related services, for example those that already have a merchant acquirer license, this process is faster.

Among the industry, there's also the fear that the current regulation, which creates a fairly tight

definition for the scope of services PGs can offer, limits their competitiveness. If, for example, PGs also want to service merchants needs for settling refunds, which requires transferring money back to shoppers instead of collecting it from them, it would require a different license.

Another challenge is the fact that several regulations in financial technology and financial services are now coming into effect at once, sometimes one overtaking the other in terms how they are enforced. If, for example, the OJK's regulation on P2P lenders stipulates lending platforms can only work with licensed PGs, but the licensing process is still lagging behind, this creates a situation in which companies suddenly find themselves in a legal grey area.

With the barrier to entry becoming higher for new entrants, BI suggests the best way is start out by registering for a "financial technology company" license, which is more broadly defined and lets startups operate with a higher degree of freedom. After that, BI will guide them and help decide which licenses are necessary, depending on the business model.

Overall, industry players support the regulator's approach to achieve more oversight in the rapidly evolving field of cashless payments, but some fear that a high degree of standardisation, and an increasingly high barrier to entry for young companies with novel ideas for how to attract and serve customers, especially those in the MSME segment, might limit innovation and growth potential.

⁹ <https://www.bi.go.id/id/sistem-pembayaran/informasi-perizinan/ptp/penyelenggara-berizin/Contents/default.aspx>

Regulation

elsewhere

As previously discussed, comparing one country's payments landscape to another has its limitations. It depends on the evolution of the banking and internet infrastructure, legacy payments habits, and the regulatory environment of each country.

When it comes to Indonesia, India might offer the best backdrop for comparison on the evolution of cashless payments instruments and their regulation.

Regulations in this space fall under the responsibility of the Reserve Bank of India.

Currently, India does not spell out a specific definition of PGs within its regulation. They fall under the Payment and Settlement Systems Act, which covers a broad category called Payments System Providers without further breakdown.

India's Payment and Settlement Systems Act requires all Payments System Providers to get an authorization from the Reserve Bank of India, and obliges all Payments System Providers to follow security and reporting standards defined in the Act. The Reserve Bank of India has the right to revoke the authorization if the Payments System Providers fails to comply with the rules elaborated in the Act, or if it operates the payment system in a different way than the conditions under which had received the authorisation.

Similar to India, Singapore is trying to shift away from a "definition-based" approach to payments service providers to a more "activity-based" one.

The rapidly evolving payment services landscape have given rise to new risks, including new digital payment business models that are more prone to cyber attacks and have significant implications to money laundering compliance. In response to these challenges, the Monetary Authority of Singapore (MAS) has begun to work out an activity-based payments framework ("PPF") in August 2016.

In it, MAS suggests to streamline the existing licensing framework for payment services into a new single and modular one which will regulate both innovative and brick-and-mortar service models, according to the risk level. The PPF introduces seven activities licensable under MAS, and this will be proposed to find its way into the Payment Services Bill (PSB), which is still under discussion at this moment.

On the other hand, Indonesia's comparable regulation on Payments Transaction Processors from 2016 (No. 18/40/PBI/2016) includes a high level of particularity, differentiating between PGs and Digital Wallets, Acquiring Services, and Switching Services, among others. Potential overlap of definitions among these type of business models have led to potential payment service providers spending substantial amount of time understanding which licensing category their businesses fall into. This has led to some of the challenges described in Chapter 6.2.

The future of

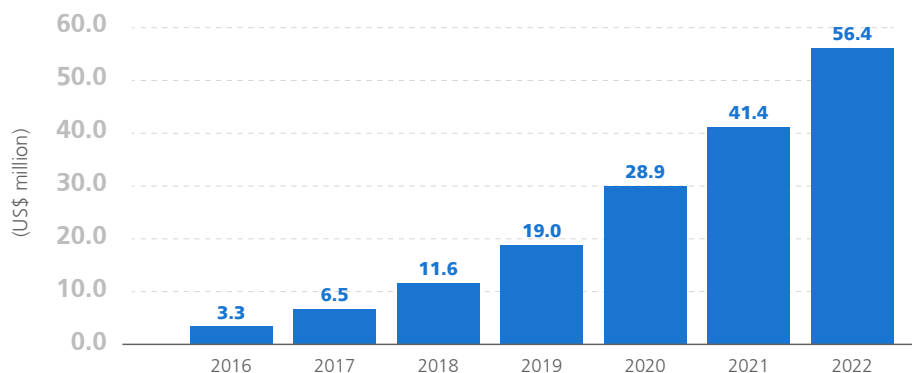
Payment Gateways

As we have seen, PGs are an accelerator for digital economy growth.

They serve individual merchants as well as tech platforms like ecommerce marketplaces and P2P lenders and are especially necessary to address the diverse payments needs of MSMEs.

PGs can better serve these niches than banks because they can focus on creating a seamless user experience that's easy to use on the merchant's side as well as for the end customer. PGs can also quickly react to trends and test new payment channels.

Without PGs who serve MSMEs, the government goal for reaching US\$130 billion in ecommerce transaction volume by 2020 could not be achieved, but the potential contribution is even larger if we factor in the role of PGs in P2P lending.



Estimated transaction value growth of P2P/marketplace lending in Indonesia

The online lending sector, which is only just getting started in Indonesia has the potential to fund and accelerate the growth of MSME, who then in turns will have the means to upgrade and digitize their operations, including the way they collect payments and file taxes.

This can create a virtuous cycle that benefits not just the digital economy, but Indonesia's economy overall.

In more advanced digital economies, PGs have grown to offer a multitude of additional services including fraud detection and software to simplify billing and financial reports. Without companies like Stripe, Braintree, and Adyen accelerating their growth, the massive platforms that define today's digital landscape, like Facebook, Airbnb, and Grab would not have been possible.

Key

takeaways

1

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Payment Gateways accelerate digital economy growth because they can quickly adapt to serve new and emerging business models based on the latest technology and user experience design principles.

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2

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Banks benefit from the existence of PGs because they help onboard merchants operating in the ever-changing digital landscape into the banking system. Banks do not have the bandwidth to address these particular needs.

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3

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Payment Gateways serve a unique purpose in Indonesia where payments channels are very fragmented, a barrier to entry for small businesses who would otherwise get left behind.

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