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SaaS Wave in Indonesia

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Executive Summary

I360 Report : SaaS Wave in Indonesia is the first of a series of reports written by Innovation Factory and Ravenry for the i360 innovation program. I360 by Innovation Factory is a comprehensive corporate innovation program that incorporates real research into a series of innovation workshops ranging from panel discussion, hackathon, business matching and networking night.

This report discusses SaaS, also known as Software-as-a-Service, a software delivery model that relies on internet connection to utilize the products. SaaS businesses have been growing rapidly in Indonesia in the past few years specifically in the fintech, healthcare, retail, logistics, and education industries. According to a research by Boston Consulting Group, the market size of Indonesia SaaS business expected to grow from estimated US\$ 100 million in 2018 to 31.9% in the following five years to reach US\$ 400 million in 2023. This represents the large market potential of SaaS business in Indonesia.

SaaS business is still being a new segment for Indonesia people. Indonesia is a big market for enterprise solutions as digital technologies are becoming popular among the million enterprises in the country. Indonesia has more than 65 million businesses across the corner, growing at 2% year-on-year. We have found that despite the fact that 99% of all businesses in Indonesia are micro-business, they represent a small percentage of the IT spend. This is a great opportunity for new players in the SaaS companies to develop their business among local businesses in Indonesia. Increasing internet penetration and affordability of cloud services, more SMEs are going to digital, enable these companies to afford and access SaaS solutions in recent years. Despite their opportunities to grow, there are the challenges faced by players in the SaaS business in Indonesia; poor awareness level, lack of digital literacy, there is resistance of change, no access to credit card payment, pricing budget mismatch, and lack of hardware that supports the use of SaaS service. Indonesia needs a solution for the SaaS business to face the challenge and grow their business.

INNOVATION FACTORY

Innovation Factory is a technology innovation hub in Indonesia. As a platform for innovation initiatives, we enable key actors in the tech startup ecosystem to meet, collaborate and grow together. Started in 2017 with the launch of BLOCK71 Jakarta, an ecosystem builder and global connector for early stage startups, which then followed by Bandung and Yogyakarta. Our latest venture, Innovation Factory@Wisma 46 aims to expand beyond being an ecosystem builder to cultivating a portfolio of key players within Indonesia's tech industry.

Innovation Factory also invests in startups and establish partnerships with organizations and corporations to foster technological innovations, empowering both Indonesian as well as international startups through a series of accelerators, market access and corporate innovation programs.

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Reference

I360 : SaaS Wave in Indonesia is the first of a series of report published by Innovation Factory, in collaboration with Ravenry. The information contained in this publication is quoted as "i360 SaaS Wave in Indonesia by Innovation Factory and Ravenry, 2020" unless otherwise noted.

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SaaS Wave in Indonesia

Introduction

SaaS (software-as-a-service) business model has been a staple in the technology industry since Microsoft started bundling services with its software products. In those days, Microsoft called it “software + services”. Currently, SaaS can be seen as a software delivery model which leverages the internet to deliver their services.¹

The SaaS trend is enabled by the availability of cloud technology. Companies host their software in the cloud which is then accessible to clients through the internet. In itself, SaaS is merely a business or delivery model and is not confined to solutions in specific sectors or industries. There are SaaS solutions for human resources, accounting, workforce management, research, data processing, project management, etc.

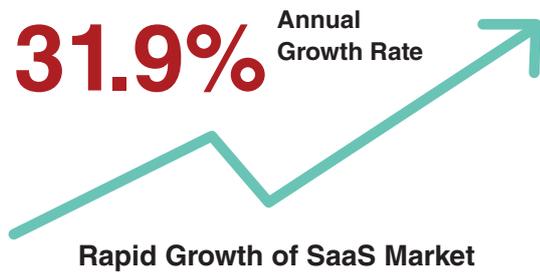
As software becomes more and more specialised, organisations require significantly more resources building and customising solutions to their needs. Traditionally, organisations have dedicated internal team which role is to create proprietary technology and software for their own organisations. Software and technology vendors are still able to deliver their services and products, but have to host or install their solutions on customers’ server which is usually located on site.

The advent of cloud technology allows software companies and vendors to change this model. Instead of installing and hosting their products and services at client sites, vendors can instead host their solutions in the cloud which is then accessible online. As a result of this, vendors started to change their monetisation model as well. Instead of a one-time fee charged during the installation of a particular software, vendors now receive recurring payments from clients who always have access to the latest and most updated version of a software.

This reduces barriers to switching and shortens the time required to implement a software within organisations. At the same time, recurring payments ensure continuity of relationships, revenue and service between vendors and customers - turning SaaS from only a reliable delivery model into a highly liquid and predictable way software businesses generate revenue and retain customers.

While the SaaS wave has taken many developed countries by storm, the prevalence of this business and delivery model is still relatively low in Southeast Asia. With its digital economy estimated to reach USD 130 billion by 2025, Indonesia is an important market to crack. As such, understanding how Indonesians are reacting towards the SaaS model is key to unlocking the potential of the rest of the region.

The Size of the SaaS Market in Indonesia



Market size of SaaS Business in Indonesia (source BCG)

Software-as-a-service businesses have been growing rapidly in Indonesia in the past few years. The market size of Indonesia's SaaS businesses is estimated at USD 100 million in 2018, according to a research by the Boston Consulting Group.² This market is expected to enjoy rapid growth at an annualised rate of 31.9% in the following five years to reach USD 400 million in 2023.

The rapid growth of SaaS businesses in Indonesia is a recent phenomenon. Indonesian businesses are usually heavily reliant on labour to complete operational tasks ranging from accounting, payroll, sales processing to manual data entry and manipulation. Low labour costs prove to be a deterrent for businesses to transition into a more efficient and digitalised way of doing things. A 2014 study also shows that resistance towards SaaS adoption is mainly due to poor IT infrastructure, a lack of understanding how the value SaaS products bring, a lack of opportunity to trial and experiment with SaaS products, and compatibility issues with legacy solutions.³

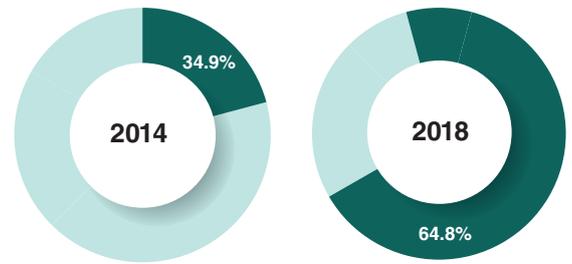
Growth Drivers of the SaaS Industry



Dramatic changes in consumer behaviour ushered by the affordability of mobile devices and internet penetration have underlined the importance of digital transformation amongst businesses. Coupled with this new awareness, SaaS products are also more accessible in Indonesia now due to the following reasons:

The Internet Penetration in the Country Is Rapidly Increasing

Internet penetration rate in Indonesia almost doubled from 34.9% in 2014 to 64.8% in 2018. As businesses gain better internet access, cloud solutions such as SaaS products become available and operate more reliably. The continued growth on Indonesia's internet infrastructure will continue to drive the growth of SaaS solution in the country.^{4 5}



Affordability of Cloud Services⁶

Compared to the traditional on-site solutions, cloud options are often cheaper, have shorter time to deployment, and can be scaled quickly. At the same time, modern cloud solutions do not require significant upfront investment and open ecosystem solutions reduce compatibility issues. As a result, the level of cloud services adoption in Indonesia has been increasing, driving complementary growth for SaaS products.

More SMEs Are Going Digital

SMEs that are going digital prefer to spend on cloud services rather than building their own infrastructure.⁷ The availability of cost-effective solutions makes it possible for SMEs, who are usually cash-strapped, to avoid the need to develop their own solutions or recruit in-house resources to complete basic tasks that can be completed with digital tools. With the Indonesian government championing digital transformation for the SMEs, this segment is going to continue driving demand for SaaS solutions.⁸



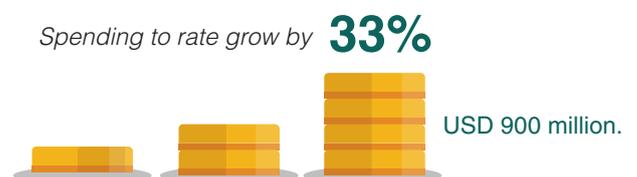
only 3% of Indonesians understand SaaS in 2012

SaaS Awareness Has Been Growing

According to a survey by Indonesian Cloud and MARS, only 3% of Indonesians understood the capability of SaaS in 2012. The prevalence of digital tools for mass consumers makes it easier for businesses to realise the potential of digital solutions for business uses as well, lowering inertia towards change. At the same time, early SaaS movers have invested heavily in awareness building and education paving the way for new players to sell into businesses that are already open towards the potential of technology.⁹

More Spending on Software

Indonesia software spending is estimated to grow by 33% to reach USD 900 million.¹⁰ As organisations are putting aside bigger budgets for software spending, SaaS players are expected to continue growing on the back of this trend.



Indonesia Is A Big Market for Enterprise Solutions



Indonesia is ranked 13th across 14 countries in the Asia Pacific in its Digital Maturity measures.

Huge Micro and SME segments

Business-to-business (B2B) SaaS products have a large captive audience in Indonesia. Today, Indonesia has more than 65 million businesses scattered across the archipelago, growing at 2% year-over-year. With a relatively low digitalisation levels, there are huge opportunities for early players to gain foothold and build their moat amongst local businesses.¹¹

Table 1. Distribution of enterprises in Indonesia

Business size	Definition*	# of firms	In percentage
Micro business	Net worth below IDR 50 million or sales below IDR 300 million	64,670,259	98.66%
Small business	Net worth between IDR 50 million to IDR 500 million or sales between IDR 300 million to IDR 2,500 million.	811,992	1.24%
Medium business	Net worth between IDR 500 million to IDR 10,000 million or sales between IDR 2,500 million to IDR 50,000 million.	63,010	0.10%
Large business	Net worth over IDR 10,000 million or sales over IDR 50,000 million.	5,645	0.01%
Total		65,550,906	100%

*Definition of micro, small, and medium business is in accordance with regulation rolled by Indonesia Financial Services Authority ¹²

While Indonesia has more than 65 million registered businesses, close to 99% of all businesses are micro-businesses. This segment predominantly comprises of players from the food and beverages, fashion, and arts and crafts sectors. Micro businesses generate less than USD 21,000 in revenue annually. While this segment may seem like an unlikely user of SaaS products, in recent years new SaaS players have specifically focused on this customer segment with their offerings. Companies like Moka, Hello Bill and Warung Pintar target micro, and small and medium enterprises (SMEs) with their modern, but cost effective digital retail solutions.

Small and medium businesses represent less than 1.4% of all businesses in Indonesia. Despite the small proportion, this segment makes up almost 1 million business entities in Indonesia and is also a prime target of SaaS products, especially because penetration amongst these players are still relatively small.

Large businesses are the ones with the largest IT budgets, and they are also the most open towards new technologies. Despite that, SaaS players that want to target this segment need to have large sales team, customisation capabilities, training and change management capabilities, and the cash trove to withstand the long sales cycle.



Growth in the Number of Startups in Indonesia

In 2018, 88% of startups in Indonesia had a workforce size of fewer than 50 employees.¹³ Although most of the startups in Indonesia classified as small businesses, the cloud technology adoption rate in this segment is expected to hit 40% by 2022.¹⁴ The desire to adopt cloud technology by this segment is driven by the need to have solutions that have short implementation timeline and are cost-effective. High level of digital awareness within this segment also makes it likelier to implement digital solutions rather than manual solutions to complete basic tasks for their businesses.

Key Trends Shaping The Industry

Three key industries that are going to become more digitalised.



Financial Services Industries



Wholesale and Retail Trade Industries



Logistics Industries

The three largest growth industries for digital solutions in Indonesia are the financial services industries, wholesale and retail trade industries and logistics industries. One of the key reasons for these industries to be leading in Indonesia's digital transformation is due to the competitive nature of these industries and the significant disruption that is faced by these players.

Table 2. Estimated IT spending by sectors in Indonesia 2018

	Estimated sector contribution in 2018 ¹⁶ (USD billions)	IT spend as a proportion of GDP contribution	Estimated IT spend (USD billions)
Financial services	44.0	6%	2.6
Wholesale and retail trade	137.9	1%	1.4
Logistics	56.9	2%	1.1
Education	34.4	3%	1.0
Healthcare	11.3	2%	0.2

Source: McKinsey, Ravenry, BPS

- 1 Financial services** players spend the highest dollar value per their GDP contribution in 2018 at approximately USD 6 per USD 100 GDP contribution. High level of security is key in the financial services industry, which means that players in the industry have to constantly upgrade their technology solutions with the latest and safest solutions. At the same time, strong growth in the e-payment sectors further incentivise financial services players to invest in state-of-the-art technology and simple-to-use solutions to compete for consumer dollars.
- 2 Wholesale and retail trade** sector was the biggest GDP contributor in 2018 at USD 137.9 billion. Although the sector generally invests little in digital solutions, the overall IT spend is still estimated at USD 1.4 billion in 2018. Given wholesale and retail trade interacts directly with end consumers, pressure to reinvent transaction and shopping experience forces players to find ways to innovate in their business. The sector is expected to contribute strongly to the growth of the SaaS industries in the next few years.
- 3 Logistics** is one of the most complex sectors in Indonesia due to the geographical extent of the country and its poor infrastructure. Investment in logistics became attractive when companies like Go-jek were successful in implementing digital

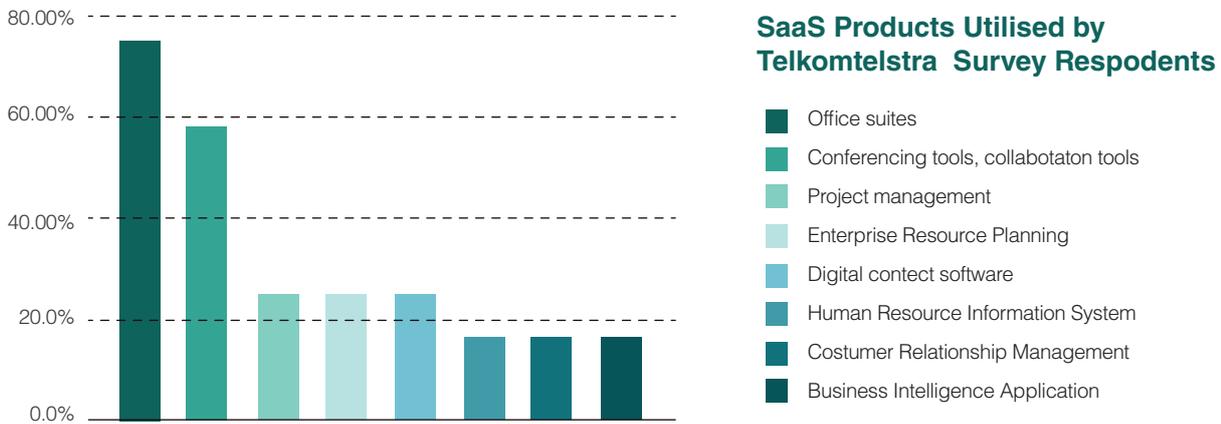
B2C solutions within metro areas of Indonesia. While the company started with personal mobility solutions, it eventually encroached upon last mile delivery services. Given the increase in e-commerce activities amongst Indonesians, logistics providers need to innovate to ensure they are able to integrate their fulfillment services with customer-facing marketplaces and e-tailers. As Indonesia's digital economy is set to continue growing, this sector's spending on IT solutions will keep increasing bolstering growth of the SaaS players in the country.

- 4 Other emerging sectors**
Two other noteworthy sectors with relatively high IT spend per GDP contribution are the **education** and **healthcare sectors**. As these industries interact directly with end consumers, they are also facing increasing pressure to innovate their services and offerings. The Indonesian Health National Insurance (BPJS), for instance, is adopting cloud solutions to deliver better healthcare services to the population.¹⁶ Given Indonesian's demand for better healthcare and education is increasing, these sectors have been aggressive in digitising their operations and services evident in an estimated IT spend of USD 200 million (2% of its GDP contribution) and USD 1.0 billion (3% of its GDP contribution) respectively in 2018.

Continued Growth in the Productivity SaaS Segment Amongst Large Enterprises

A survey by TelkomTelstra captured the responses from 12 predominantly large businesses on their organisations' technology adoption behaviours. Of all SaaS categories used by these respondents, more than 75% currently leverages document processing tools (office suites), which conferencing and project management tools take a distant second and third position at 58% and 25% adoption amongst respondents.¹⁷

SaaS adoption in Indonesia business with more than 50 employees



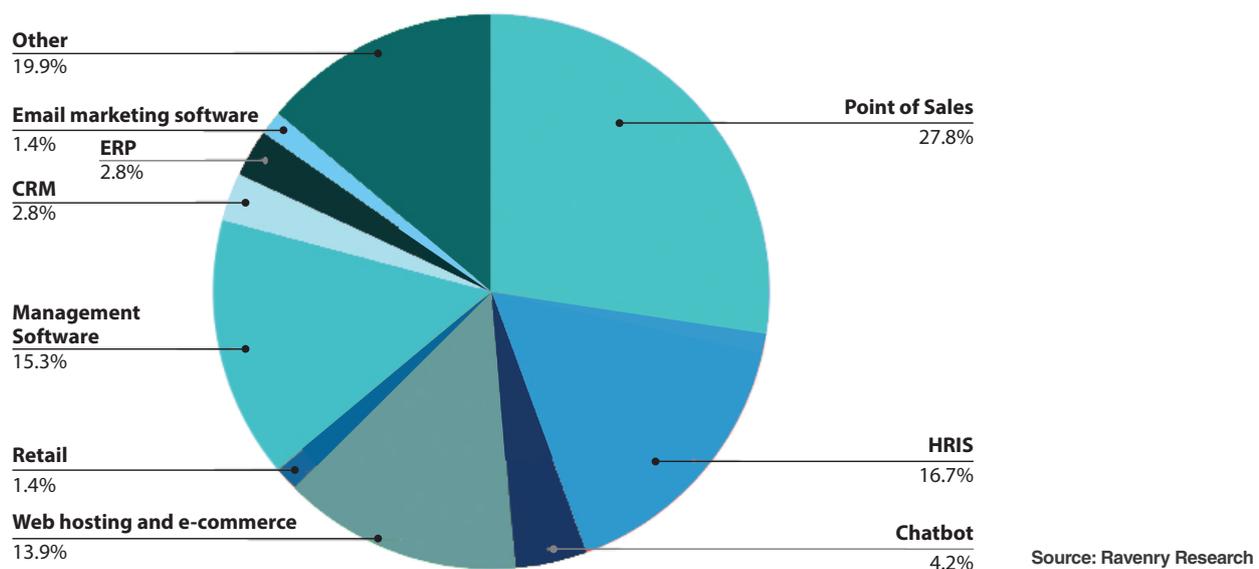
Source: Telkomtelstra

SME Customers Need Basic Business Solutions

Based on Ravenry's analysis of 72 Indonesian SaaS players, point of sales (POS) solution makes up the largest segment of SaaS products, followed by human resource management solution and e-commerce solution.

Growth of the POS segment in Indonesia is unsurprising given the country's large wholesale and retail trade sector (valued at USD 137.9 billion in 2018) which are dominated by micro, small and medium-sized businesses. Given the increasing competitiveness in the retail trade, retailers are looking for every competitive advantage they can get to lower costs, obtain key insights about their customers, and create a great retail experience. This prompts the growth of companies like Warung Pintar, Moka, and Hello Bill.

Segmentation of SaaS players by solution type



General workflow management solutions such as human resource management (HRM) software and accounting software could also generate significant growth using SaaS model as they are able to offer low subscription costs to their target audience, while focusing on developing niche solutions.

E-commerce solutions, on the other hand, are mainly riding on the wave of Indonesia's increasingly mobile native shoppers. Vendors that leverage e-commerce channels are adept at using technology to find customers, and are now interested to digitise other aspects of their business from order fulfillment to invoicing. SaaS players that are able to provide easy-to-use solutions at affordable prices will be able to piggyback on e-commerce businesses' growth in the next 5 years.



Product Bundling As Monetisation Strategy

While most SaaS companies in mature markets provide only software as part of their solutions, in Indonesia the inverse seems to be the norm. While many SaaS players still offer the basic software solutions on recurring charges, several SaaS players are offering bundled products and services together with their software solutions.

E-commerce enablers such as Sirclo bundle their e-commerce platforms with end-to-end services such as inventory management, fulfillment, and marketing services. Point of sales solutions such as HelloBill and Moka package their software with hardware such as invoice printers, kitchen displays and cash registers. Some startups went as far as absorbing the hardware cost, offering free hardware on long term subscriptions. Zeepos, for instance, provide customers on annual contracts with a free cash register.¹⁸

A likely explanation for the success of the bundling model is that customer's perceived value of the solution significantly

Increases when tangible product is part of the package. Having a hardware as part of the service bundle mirrors that of a leasing business model, which is familiar and therefore more acceptable to most business owners.

By bundling hardware together with software, SaaS players are able to more convincingly demonstrate the value of their offerings. However, as a result of the high hardware cost, sometimes buyers may be deterred by the expensive monthly subscription. Several startups even added financing to their contract to make their services even more affordable for cash-strapped SMEs. Aquaculture IoT (Internet of Things) startup, eFishery, charges their clients USD 560 upfront for their automatic fish feeding machine, which is a considerable amount in a market with an average national income of slightly more than USD 4,000 annually. To circumvent this initial high cost, the company provides financing scheme which allows customers to choose different payment plan for their solution.¹⁹

Investors are Still Wary Towards SaaS Business Models for Indonesia

Out of the 72 local SaaS startups analysed by Ravenry, 27 startups have been awarded external funding. The following table details the startup verticals and their funding status as of 2019:

Table 5. Startup Funding Summary (Per Vertical)

Startup verticals	# of startups analysed	# of startups with funding	Key players
Point of Sales	20	4	Moka, Pawoon, NadiPOS
Human Resources Information System	12	6	Jojonomic, Mekari, Gadjian
Chatbot	3	3	Kata.ai, Bahasa.ai, BJTech
Web hosting and E-commerce	10	3	Sirclo, Jarvis Store, 8commerce
Retail	1	1	Warung Pintar
Management software	11	2	Waresix, Medico
CRM	2	1	Advotics
Email marketing software	2	1	MTarget
Other	10	6	Kofera, Sonar, Tada
Total	72	27	

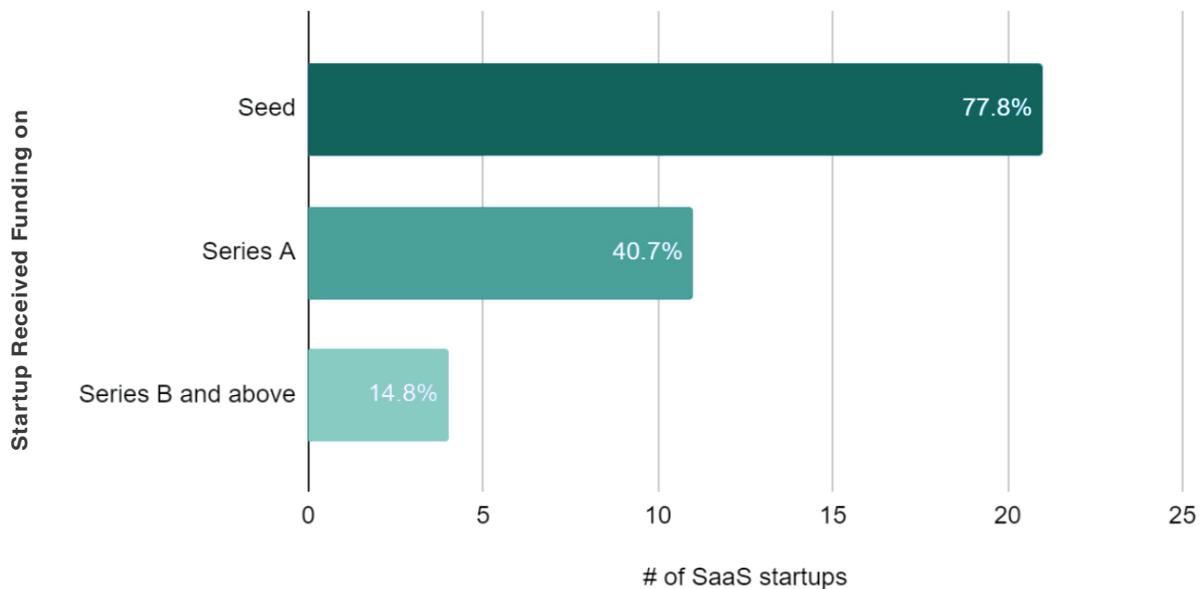
Of all the startups in the above list, only 37.5% has received external funding. The vertical that has the highest rate of successful fund raising (except for retail, of which there is only 1 sample size) is the chatbot vertical (100%) followed by human resources system, CRM and email marketing verticals (each at 50%).

Given the chatbot vertical generally targets other technology companies, players can very reliably employ traditional monetisation and distribution strategy - making it a lower risk SaaS investment compared to other verticals. On top of that, the specificity and scalability of the chatbot business make for a defensible and business and therefore an appealing investment. HRM, CRM and email marketing verticals target relatively established businesses with large number of employees to warrant such software investment, making them relatively safer bets compared to other SaaS verticals in the list

Despite the strong growth of the e-commerce industry, e-commerce solutions with SaaS models seem to struggle convincing investors with only 30% of startups successfully fund-raised. While the data could be interpreted as investor's missed opportunity, it may also be a reflection of investors' wariness towards SaaS models that target SME clients - which is a model that has yet to be proven in a market with four C2C unicorns (Bukalapak, Tokopedia, OVO, and Gojek).

Despite that, several notable startups still managed to secure their Series B rounds within just a couple of years of operations: Moka, Tada, and WarungPintar. With a strong pipeline of SaaS startups in the seed and series A stage as seen in the diagram below, it is evident the growth of SaaS businesses in Indonesia will only continue.

Distribution of investment series among Indonesia SaaS startup



Source: Crunchbase, Ravenry analysis

Key Challenges in the SaaS Industry

Despite its growth, Indonesia is still a nascent market for SaaS products. The market's octane-fuelled digital growth is predominantly driven by consumer-facing products, such as e-commerce and social media platforms. SaaS players that operate in the B2B domain may face the following challenges as they grow their business in Indonesia.

Challenges faced by players operating with SaaS model



1 Poor awareness level



2 Resistance to change



3 No access to Credit Card Payment



4 Pricing Budget Mismatch

1 Poor awareness level

The level of awareness of SaaS products is very low among Indonesians. A research conducted in 2015 across IT professionals across 15 organisations showed that only 20% of respondents have at least a medium level of awareness of SaaS products, with the remainder having only a basic understanding of what SaaS products are.²⁰

Through the same research, it is also found that the decision making process on technology adoption is also highly influenced by top management, who generally do not have technology training and are therefore even less qualified to make these decisions. As the awareness level of the value SaaS products can bring to organisations is rather low, players in this industry may find it challenging to introduce their solutions without investing significant amount of time educating and informing their potential clients.

Poor awareness towards digital solutions is also partially attributed to a low level digital literacy amongst Indonesians. This is directly related to a low proportion of Indonesians with tertiary education. According to Japelidi study,²¹ digital literacy is highest amongst individuals with tertiary education as most primary and secondary education facilities still lack the necessary equipment to educate students on digital tools.

2 Resistance to change

SaaS adoption requires a fundamental shift in the way technology decisions and investments are made amongst Indonesian businesses. There are three main reasons for such resistance:

Sunk cost mentality



For larger organisations, IT and technology investment traditionally requires significant upfront investment and customisation. Most organisations developed their own solutions internally or through third party providers. Teams that have invested heavily in the design of these solutions are reluctant to move on to better solutions due to the desire to justify their spending in the first place.

Change management



Organisations that already adopted a working solution is reluctant to change and this reluctance mainly originates from the end-users of these solutions themselves.²² End users that do not want to put in the effort to change their habits, processes, and learn new solutions tend to resist changes towards technology.

Shift in cost allocation



While large businesses are better able to predict their income, a significant portion of Indonesian businesses are micro businesses and SMEs. With a relatively unpredictable cashflow and being cash poor, smaller businesses tend to avoid recurring payments and prefer one-time fees that they can plan around. As a result, SaaS products with recurring and complex charges may be less attractive to smaller businesses with smaller cash coffers.²³

3 No access to Credit Card Payment

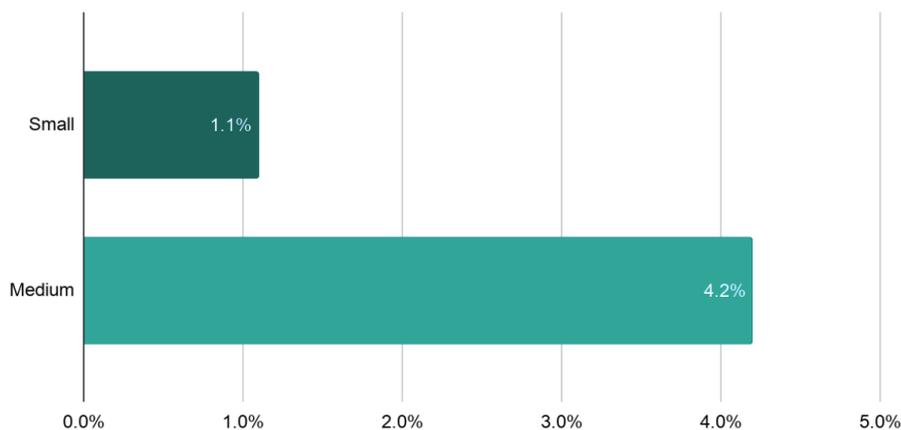
Credit card is often the preferred method of payment amongst SaaS players that need to be able to carry out recurring charges securely. Low credit card ownership levels amongst Indonesians pose to be a critical challenge for SaaS players to collect payments. Only a mere 2% of Indonesians above the age of 15 years old own credit cards in Indonesia as surveyed in 2015.²⁴ SaaS companies that are able to circle around this issue and still be able to receive a reliable stream of payments will have a competitive advantage in the Indonesia market.

4 Pricing Budget Mismatch

Data from Indonesia Financial Services Authority (OJK) suggests a large portion of SMEs in Indonesia is having difficulty in securing funds to run their business²⁵ and the lack of cash-on-hand might discourage SMEs to invest in technology. This is substantiated by weak IT spending among SMEs at around USD 860 per year.²⁶

Percentage of Indonesia firms that spend on R&D by companies' size

R&D spending on Indonesia small and medium enterprises



Source: OECD iLibrary

To add to the challenge amongst buyers, SaaS solutions in Indonesia are relatively expensive compared to the GDP per capita. At the lowest end, **SaaS products cost 1.73% of the nation's GDP per capita; and at the highest end costs as much as 43% of the GDP per capita.**²⁷ This is significantly higher compared to markets like **Hongkong (0.3% to 4.1% of GDP per capita), Malaysia (1.5% to 18.9% of GDP per capita), and even China (0.7% to 22.0% of GDP per capita).** The perception of high prices further alienate customers who are really in need of the solutions.

Lack of Hardware to Support SaaS

Although internet penetration in Indonesia has been growing rapidly, Indonesians typically access the web using mobile devices which are becoming more affordable. The penetration of computer products amongst Indonesian SMEs is merely at 6.22%.²⁸ This poses a challenge to SaaS players with products that are only accessible and compatible through desktop products.

Businesses Prefer Done-For-You Services

Gadjian surveyed 161 Indonesia enterprises and found 65% of the respondents do not leverage human resource management software even though they are considered as established enterprises (in business more than five years and have workforce size of more than 200 people).²⁹ Weak enterprise software adoption is likely due to the popularity of function outsourcing in Indonesia (90% of large companies is estimated to use this approach).³⁰ Business process outsourcing from accounting, payroll, bookkeeping, and software development services is common. As a result, internal teams do not need to rely on digital solutions to manage these tasks as businesses tend not to need to insource these activities.



Opportunities in the Indonesian SaaS market

As Indonesia continues to prioritise its digital transformation, growth opportunities for SaaS players will only expand.

Awareness building drives sales and builds credibility

Given Indonesia's relatively low digital literacy levels, awareness building and education are key in helping businesses and individuals realise the potential of digital solutions. Early SaaS players have been active in bringing their clients up to speed with what their technologies can offer. This helps early brands establish themselves as thought and market leaders in the vertical they specialise in, building credibility and driving sales for their products. For example, Moka has held more than 100 SME-centric workshops on topics related to business management between 2018 and 2019, and subsequently saw an increase of 60.5% in active users during the same period.³¹ Given the success of this initiative, Moka plans to organise similar activities across 37 cities in 2019.³²

Partnership opens up new distribution and payment channels

SaaS players that are looking to expand quickly need reliable distribution channels and operational infrastructure to raise brand awareness and also to facilitate the delivery of their product. Telecommunications providers are a natural fit as partners to SaaS players as they have the customer relationship, delivery infrastructure, and operational presence across Indonesia.



Telkomsel, Indonesia's largest telco player, helps Indonesian businesses connect to SaaS services by leveraging their extensive internet coverage area.³³ Telkomsel, through myBusiness Store, offers SaaS products such as Microsoft Office 365, Pawoon POS, and Jarvis Store that are bundled with Telkomsel mobile internet plan.³⁴ The introduction of these packages is greeted with positive response and Telkomsel has gained 20 thousand users from this initiative.³⁵ Telkomsel is expected to double down its effort on myBusiness Store as it aggressively targets the SME segment in Indonesia.



Collaboration with telco partners with strong payments infrastructure also helps SaaS players sidestep issues related to payment collection in a market that is highly unbanked. Pawoon and Sleekr, for instance, work with XL Axiata to bill and collect payments from the SME segments.³⁶ Sleekr goes as far as offering XL customers with free subscriptions to its accounting software, in the hope of getting customers to try its products. Once customers see value through the free tier, they can then upgrade their plan and pay through XL together with their mobile phone bills.³⁷

While telco providers are obvious partners for many of the SaaS players in the market, they are not the only ones going out of their way to add value to SaaS businesses. Financial services providers, such as Bank OCBC NISP, are strategic in working with technology partners that can create value for their retail and business customers.³⁸ In return, the bank offers a network of potential customers, deep banking expertise, and also payment facilities for startups that are ready to scale their business. Similarly, conglomerates such as EMTEK is also strategic partners for SaaS players that want to focus on specific verticals or industries.

Focus on the many

While large businesses tend to be a lot more open and sophisticated with new technologies, Indonesia's unique business landscape highlights a huge untapped opportunities amongst the micro business and SME segments. Both these segments represent more than 99% of all business entities in Indonesia at around 65 million entities. Given a significant portion of these segments operate in the food and beverage and fashion industries, they are highly pressured to compete with new e-commerce players that tend to dominate these industries. As a result, micro businesses and SMEs increasingly look towards digital solutions as a way for them to remain relevant.

As most SaaS solutions are scalable beyond geographies and markets, many of the large businesses' needs is easily served by global players such as Salesforce, SAP, and Google. However, the same solutions cannot be easily implemented within the micro business and SMEs segments as these customers have relatively rudimentary business processes, limited budget, and lower digital literacy levels compared to operators in large business segment.

Opportunities for local SaaS players to service this segment is huge, especially if they are able to provide cost-competitive solutions. Current popular solutions, which affordable in many markets, still represent a large chunk of Indonesian businesses' costs, as seen in the following table:

Table 7. Cost of popular office suites solution in comparison to GDP per capita

	GDP per capita ³⁹ (USD in 2018)	Google Suite Basic cost as a proportion of GDP per capita (USD 6 per user per month ⁴⁰)	Google Suite Enterprise cost as a proportion of GDP per capita (USD 25 per user per month)
Indonesia	3,893	1.85%	7.71%
Malaysia	11,238	0.64%	2.67%
Singapore	64,581	0.11%	0.46%
US	62,641	0.11%	0.48%
Global	11,298	0.64%	2.66%

In Indonesia, popular office suite solution such as Google Suite could cost up to 7.71% of the country's GDP per capita, which is significant when compared to other markets such as Singapore (0.46%), Malaysia (2.67%), and the US (0.48%). As a result, many of these global SaaS solutions are not accessible to micro businesses and SMEs in Indonesia. Local players that can provide similar solutions at significantly lower prices will be able to upend the incumbent and capture the lion's share at least within the micro businesses and SME segments.

Productised services rather than software services

Given Indonesian customers' relatively low digital literacy, it is no surprise software companies with SaaS models increasingly provide end-to-end services to their clients. Early pure play retail software companies started to offer hybrid solutions by incorporating hardware solutions, training, and even human operators to ensure customers are able to realise the value of their software. Companies such as Warung Pintar go to the extent of providing the entire bundle of hardware and software for free in exchange for exclusive supplier relationship through which it monetises its business and recoup its investment costs. E-commerce enablers like SIRCLO goes beyond providing its self-service e-commerce platform to managing its clients' implementation, fulfillment and even marketing activities.

As competition intensifies amongst software players, companies that are able to seamlessly create value for their clients will earn their wallet's share much more quickly. In a market with low labour cost, the provision of additional services surrounding a software solution could be a cheap way for SaaS players to differentiate themselves.

Conclusion

SaaS business and delivery models are still new to the Indonesian consumers. The SaaS industry is set to experience strong growth on the back of increasing adoption of cloud solutions and increasing IT spending. In the years towards 2023, the industry is expected to grow at more than 30% annually, reaching USD 400 million by 2023. SaaS spending is still relatively low compared to software spending in Indonesia. It is estimated that by 2020, SaaS spending will represent around 14.71% of total software spending,⁴¹ indicating a relatively low adoption level in the market. As a result, opportunities for new SaaS players to enter the market and grow their businesses in Indonesia remain up for grabs.

While the industry is facing initial resistance, many SaaS players have been able to innovate on their business model to alleviate customer concerns. Early SaaS players invested significant effort educating and familiarising their target customers with their solutions, establishing themselves as thought and market leader in the industry. Innovative monetisation models through product bundling and forming exclusive distribution rights help sidestep customer reluctance towards recurring charges on software only solutions. Partnership with larger organisations to expedite product delivery, collect payments and achieve national reach is key to gain early success and accelerate growth.

While investors are still wary about the SaaS model in Indonesia, many early players have proven their abilities to sidestep key roadblocks and achieve significant traction. Given Indonesia's continued focus on digitising its economy, software and various digital solutions will only continue to grow in demand. Whether or not SaaS players will remain pure play software companies or evolve into hybrid players with end-to-end service solutions still remains to be seen.

Key Players in the Market

Huge Micro and SME Segments

Ravenry analysed 72 local startups that leverage SaaS business and delivery model. The following is a list of key players in the market.

	Industry Point of Sale
Website	https://www.mokapos.com/en
Founding date	July 2014
Funding raised and key investors	Moka raised USD 27.9 million. The most active investors in Moka funding stages are Pegasus Tech Ventures, East Ventures, and Convergence Ventures.
Description	Founded in 2014, Moka was the first point of sale (POS) player in Indonesia. The company mainly targets the SME segment with the largest customers from F&B, retail, and service sector.
Performance	Moka had successfully increased the number of users from 2,000 merchants ⁴² to 12,000 merchants within three years. ⁴³ The company is estimated to generate USD 3.4 million annually. While the growth is good, the company is trying to expand the user base and reach 40,000 users by the end of 2019. To achieve this, Moka now offers financing with low-interest rate to attract SME users. ⁴⁴
Offerings	Aside of point of sale software, Moka also offers retail management software, customer relationship management software, POS hardware, and capital lending.
Monetisation strategy	<p>To generate revenue, Moka leverages three main channels</p> <p>Software subscription. On this model, Moka distributes the point of sale software over the cloud and the customer of Moka will be charged on a monthly basis. The subscription packages come in different tiers, depends on software functionalities and features.</p> <p>Selling activities of Point of sale hardware. Besides subscription, Moka also offer hardware such as cashier register machine and scanner. The model of hardware selling is a one-time-purchase.</p> <p>Capital lending. Moka collaborates with local fintech players such as Koinworks and Modalku to disburse capital. It is likely Moka will get a cut from the successful deal.</p>
Other news	Go-Jek is in talks to acquire Moka under a deal worth over USD 100 million. ⁴⁵

		Industry Retail
Website	http://www.warungpintar.co/	
Founding date	October 2017	
Funding raised and key investors	Warung Pintar has raised USD 35.5 million from investors like SMDV, Digital Garage, Triputra Group, and East Ventures.	
Description	Warung Pintar is a technology company that digitise conventional stalls with technology products.	
Performance	Warung Pintar saw rapid growth since its introduction. It is estimated the number of Warung Pintar stalls have reached 1,100 units. High demand from the conventional stalls owners fuels the company's growth and Warung Pintar targets to have 5,000 stalls by the end of 2019. ⁴⁶	
Offerings	Warung Pintar provides a prefabricated stall that is integrated with technology solutions such as internet connection, POS system, and accounting system. The technology solutions are provided for free.	
Monetisation strategy	Warung Pintar bundles software solutions with its prefabricated stalls which are equipped with Wifi routers, cash register, and LCD displays. ⁴⁷ However the company does not monetise on these products and solutions. Instead, Warung Pintar monetises this relationship by becoming the supplier to their partners, generating revenue through the wholesale of products that eventually are retailed by warung (stall) owners. ⁴⁸	
Other news	Warung Pintar acquired Lima Kilo (a startup specialises in the distribution of fresh food commodities) would likely to diversify Warung Pintar inventory. ⁴⁹	



PAPER

Industry
Financial software

Website	https://www.paper.id/
Founding date	2016
Funding raised and key investors	Paper.id has raised a Series A funding from investors like Golden Gate Ventures and Modalku. The amount of funding is undisclosed.
Description	Paper.id is a startup specialises in invoice software.
Performance	The product is mainly targeting the SME business owner. In April 2018, Paper.id had 5,000 users and in October 2019, Paper.id have around 100,000 users. ⁵⁰ The rapid growth is likely attributed to the company's freemium business model.
Offerings	Paper.id main offering is an app that assists business owner in recording the company financial cash flow.
Monetisation strategy	Paper.id use a freemium business model. <ol style="list-style-type: none">1.On the free tier, the app can only be accessed by a single person.2.To access the app full features, a recurring subscription is required.
Other news	In August 2019, Paper.id raised series A funding. ⁵¹



Industry
Point of Sales

Website	http://www.pawoon.com/
Founding date	2013
Funding raised and key investors	Pawoon' latest funding round is a corporate round where 30% of the company' stake was acquired by Distribusi Voucher Nusantara (DIVA)
Description	Pawoon offers point of sale software and mainly targets SME segment from F&B, retail, and service sector.
Performance	<p>Between 2016 and 2019, Pawoon' users have been growing from 10,000 users⁵² to 100,000 users.⁵³ The rapid growth is likely attributed to two factors:</p> <ol style="list-style-type: none"> 1. Pawoon offers a free tier service. 2. Strategic partnerships with another company have helped Pawoon exposure in reaching more potential users in Indonesia.⁵⁴
Offerings	Pawoon mainly offers point of sales and the supplementary hardware such as printer, scanner, cashier machine.
Monetisation strategys	<p>Pawoon leverages two revenue channels:</p> <ol style="list-style-type: none"> 1. Software subscription. Pawoon distributes point of sale software over the cloud and the customer is charged on a monthly basis. Pawoon also offers a free tier subscription. However, the feature in the free tier is relatively limited. The subscription packages come in different tiers, depends on software functionalities and features. 2. Point of sale hardware. Pawoon offers hardware such as cashier register machine and scanner. The model of hardware selling is a one-time-purchase. However, software subscription is not included as part of hardware purchase.⁵⁵
Other news	<p>Distribusi Voucher Nusantara (DIVA) acquired 30% of Pawoon ownership. As a result of the action, the Pawoon software have several new features implemented such as supply chain management system and a more robust system.⁵⁶</p> <p>Pawoon entered a collaboration with Go-Pay. This partnership enables Pawoon system to handle the non-cash payment. The activity is likely to affect the growth of Pawoon as Go-Pay popularity amongst Indonesian that actively use a digital wallet.⁵⁷</p>



Industry
Human Resource Information System

Website	https://mekari.com/
Founding date	2015
Funding raised and key investors	Mekari has raised a series A funding with undisclosed amount from investors like East Ventures, Mandiri Capital Indonesia, and Money Forward.
Description	Mekari is a merger of four different startups - Talenta, Sleekr, Jurnal, and Klikpajak. The company mainly targets the SME sector.
Performance	Mekari is used by more than 10,000 SMEs. ⁵⁸ While there is very little information about company growth, it targets 400% growth in 2019. ⁵⁹
Offerings	Mekari have three main offerings - human resource information software (HRIS), accounting software, and tax software. Given Mekari is a consolidation of 4 different startups, at this moment the integration between the service is still in progress. ⁶⁰
Monetisation strategy	Mekari generates income by charging a subscription fee to its customers. The cost of the service is subject to software features and functionalities.
Other news	In August 2019, Mekari raised series A from East Ventures. ⁶¹



Industry
Web hosting and e-commerce

Website	http://www.sirclo.com/
Founding date	2013
Funding raised and key investors	SIRCLO has raised over USD 5 million and secured a series A funding. Known investor on SIRCLO funding rounds is Google Launchpad Accelerator
Description	Sirclo helps business in managing end-to-end e-commerce. From building an e-commerce website, managing the shipment and packaging, and providing warehouse management.
Performance	According to an interview with the company' CEO, Sirclo products saw rapid growth in recent years. SIRCLO Store is growing at 100% annually while SIRCLO Commerce growing is at 300% annually. ⁶²
Offerings	SIRCLO targets two customer segments. First, SMEs that wanted to build an e-commerce website but have zero to limited experience (SIRCLO Store), and second, established business that wanted to build its own e-commerce website and assistance in managing e-commerce channel (SIRCLO Commerce).
Monetisation strategy	SIRCLO have two business models <ol style="list-style-type: none"> 1. SIRCLO Store (e-commerce website building) is charged on a subscription basis. The subscription cost is varies depending on the features. 2. E-commerce consultation. SIRCLO helps clients increase e-commerce sales by optimising the operation. The fee is likely charged in a subscription model and the cost is subject to the scope of work.
Other news	The startup raised USD 5 million in Series A funding round in March 2019. ⁶³



Industry
Retail

	<p>Industry Retail</p>
<p>Website</p>	<p>http://kata.ai/</p>
<p>Founding date</p>	<p>2015</p>
<p>Funding raised and key investors</p>	<p>The company's latest funding stage is a Series A funding with USD 3.5 million raised. The key investors in Kata.ai funding rounds are Trans-Pacific Technology Fund, MDI Ventures, Convergence Ventures, 500 Startups.</p>
<p>Description</p>	<p>Kata.ai specialises in building a chatbot and neural language processing.</p>
<p>Performance</p>	<p>The company decided to focus more on the Business-to-Business (B2B) segment. In 2017, Kata.ai serviced around ten clients⁶⁴ and this number is growing to 20 clients in 2018.⁶⁵</p>
<p>Offerings</p>	<p>Kata.ai offers three products. Building an AI chatbot from scratch, based on the clients' requirements Integration of client' Whatsapp business account with Kata.ai chatbot. Chatbot Integration service with messaging apps such as Whatsapp</p>
<p>Monetisation strategy</p>	<p>Kata.ai have two main channels to generate revenue</p> <ol style="list-style-type: none"> 1. Chatbot building and chatbot integration services. This service is charged on a monthly subscription. 2. For a customer that does not have an existing chatbot, Kata.ai offers integration of the customer Whatsapp account with Kata.ai Chatbot system. On this model, Kata.ai charge the customer in an as-you-go model.⁶⁶ This means for every message responded by Kata.ai chatbot, the customer will be charged a particular amount.
<p>Other news</p>	<p>Back in 2016, Kata.ai successfully acquired HeyKuya - a Philippines startup specialised in personal assistant service. This foray is likely to showcase the company' ambition to expand its service at the regional level.⁶⁷</p>



waresix

Industry
Logistics

Website	https://waresix.com/
Founding date	2017
Funding raised and key investors	Waresix has raised funds over USD 16.1 million from various investors such as East Ventures, Monk's Hill Ventures, SMDV, and Jungle Ventures.
Description	Waresix is a startup that provides end-to-end shipment services.
Performance	In July 2019, Waresix have more than 20,000 trucks dan 200 warehouses under their management. ⁶⁸ The company handles distribution of 10,000 ton packages per month and the shipment is growing rapidly at 25% per month. ⁶⁹ he growth is attributed to the company's unique position as the first mover in the end-to-end shipment industry.
Offerings	Waresix provides warehouse rental and forwarding service.
Monetisation strategy	Waresix relies on two business model: <ol style="list-style-type: none">1. Waresix have established partnerships with warehouses across the country. From this, the potential customer can select warehouse based on criteria such as the size and the location of the warehouse. This service is charged on a monthly basis subscription.2. Waresix through its cloud-based platform, allow customers to select freight from point A to point B. The cost likely varies according to the shipping distance and shipping weight.
Other news	In July 2019, Waresix raised series A funding worth of USD 14.5 million. ⁷⁰



Industry
Analytic software

Website	http://kofera.com/
Founding date	2016
Funding raised and key investors	Kofera has raised series A funding with undisclosed amount. The known investor in Kofera is MDI Ventures
Description	Kofera is a startup that helps business optimising their marketing campaign.
Performance	Kofera has more than 100 clients and mostly in e-commerce verticals. While the user growth is unknown, Kofera recorded positive growth on revenue perspective, with a 300% growth between March 2016 to January 2017. ⁷¹
Offerings	Kofera offers a platform that helps businesses optimise their pay-per-click advertising by leveraging machine learning technology. Aside from that, Kofera also provides a managed-service by Kofera marketing expert.
Monetisation strategy	<p>Kofera have two revenue channels:</p> <ol style="list-style-type: none"> 1. Kofera Platform. This product is a SaaS product that helps customers optimise their marketing campaign. The service is charged on a monthly subscription basis. 2. Kofera Managed Service. This product is an end-to-end business solution for customers that want expert assistance on marketing optimisation. On this model, the chargeable cost is Kofera Platform subscription costs and the expert service cost.
Other news	Kofera has received investment from MDI Ventures, the investment arm of Telkomsel. As a result, Kofera products are listed in the Telkomsel software store. ⁷²

	Industry Other (reimbursement software)
Website	https://jojonomic.com/
Founding date	2015
Funding raised and key investors	Jojonomic has raised funding over USD 1.5 million from investors like Finch Capital, Pegasus Tech Ventures, Golden Gate Ventures, Maloekoe Ventures, and East Ventures.
Description	Jojonomic offers an app that help business and workers manage the reimbursement process. The main clients are startups, corporations in oil & gas, FMCG, and telecommunication industry. ⁷³
Performance	The growth rate of the company is undisclosed.
Offerings	The main offerings are reimbursement claim software and personal finance management software. The revenue is mainly generated from the reimbursement software that can be run on the user's smartphone, where user can file the reimbursement simply by uploading a copy of bills. ⁷⁴
Monetisation strategy	Jojonomic relies on a monthly subscription. The subscription cost is subject to app features and functionalities.
Other news	Jojonomic raised series A funding in January 2019. Aside from that, Jojonomic collaborates together with Bank Negara Indonesia to create a corporate debit card that can help the company track its workers' expenses. ⁷⁵



Industry
Business intelligence software

Website	http://www.holistics.io/
Founding date	September 2015
Funding raised and key investors	Holistics runs its business without external funding.
Description	Holistics is a company specialises in business intelligence tool that helps business create reports.
Performance	According to an insider report, the acquisition of customers has been rapid. This can be seen on the growth of the user base from 1,000 users in 2017 to 4,000 users in 2018. The rapid growth is likely attributed to the company's success in closing deals with region big-names such as Grab and Traveloka.
Offerings	An analytic data software that helps businesses process their data into a presentable chart by leveraging easy-to-use software. The features range from data modelling to data reporting.
Monetisation strategy	Holistics is most likely relies on a monthly subscription to the service starts from USD 500 per month. The price includes every features Holistics has to offer.
Other news	



Industry
Human Resource Information SYstem

Website	https://indonesia.hreasily.com/
Founding date	2015
Funding raised and key investors	HReasily has raised SGD 7 million from various investors ranging from Envy Capital to Zino Ventures.
Description	HReasily is a Singapore -based startup specialises in distribution of cloud-based human resource information system.
Performance	According to an interview with the company CEO, HReasily closes deal with over 100 new companies daily. The company has onboarded over 30,000 companies since its founding. ⁷⁶
Offerings	HReasily provides a broad array of features like Leave Management System, Payroll System, Staff Management System, Claims Processing System, and Attendance System.
Monetisation strategy	HReasily mainly leverages its premium tier software to generate income. On the premium model, the fee is charged based on the number of employees enrolled. Aside from that, HReasily provides add-on features that are packaged in an optional module.
Other news	The company is in the plan to proliferate its product offerings and will launch services range from Employee Benefits System to Onboarding system in 2020. ⁷⁷

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