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Narrow AI, Broad Opportunities

Not till we are lost...do we begin to find ourselves.

-Henry David Thoreau-

4Q 2019



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Narrow AI, Broad Opportunities

History is full of examples of how even well-intentioned uses of technology could go wrong. We are all familiar with how people use the internet to spread hatred through fake news, for example. Deep fakes are an even bigger threat, in terms of sparking chaos.

As such, we believe that it is a good idea to heed the warning about what could go wrong from a noted historian.

We have been following Yuval Harari, a professor at the Department of History, Hebrew University of Jerusalem. He is also an author of some thought-provoking books that we read with interest.



Yuval Harari warned the threat of AI during World Economic Forum 2020, Davos, Switzerland.
Source: WEF 2020

Harari recently made a grim warning to the Davos crowd, about three existential threats faced by humanity: nuclear war, ecological collapse, and technological disruption.

Out of these three threats, nuclear war and ecological collapse represent a common threat to everyone. As such, it's easier to prevent. Nobody is going to win a nuclear war, and everyone will suffer from ecological collapse.

The problem of technological disruption is much more difficult to solve. This is because there are people who believe there is a good chance that their camp can win the tech race.

The winner of an AI arms race may be so powerful that they can control the world economy or the world's political systems. The prospect of such future makes it difficult to convince the competing parties that regulating AI would be better for the common good. Who cares about sharing equally if you could get all? The real central issue here is inequality.

Technological disruption risks: the emergence of unprecedented inequality between superhumans and the “useless class”

Below is the summary of Harari's speech at Davos and his thoughts about the future of humanity (if we can still call it human) as written in his book *Homo Deus*:

Most of us are fascinated by technology and its promise to a better life. But in Harari's view, technology might also disrupt human society and the very meaning of human life in numerous ways, ranging from the creation of what he called a global “useless class” to the rise of data colonialism and digital dictatorships.

Automation may cut millions of jobs. While it will also create new jobs, it is unclear whether people can adapt fast enough. A fifty-years-old truck driver losing his or her job to a self-driving vehicle may struggle to reinvent himself or herself as a software engineer. The challenge is that the new jobs too will rapidly change and may vanish again. The automation revolution will not be a single watershed event.

The greatest enemy of knowledge is not ignorance. It is the illusion of knowledge.

-Stephen Hawking-



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In Harari's words, those who fail in the struggle against irrelevance would constitute a new *useless class* – people who are useless from the viewpoint of the economic and political system. And this useless class will be separated by an ever-growing gap from the ever more powerful elite.

China and the USA are currently leading the AI race, leaving most countries far behind. Unless we take action to distribute the benefit and power of AI between all humans, AI will likely create immense wealth in a few high-tech hubs, while other countries will either go bankrupt or become exploited data-colonies. According to Harari, the country that fail to keep up with the technology race will either go bankrupt or become a colonial data colony.

Another aspect of an ever-growing gap between the useless class and the powerful elite is that technology might disrupt not just our economy, politics, and philosophy – but also our biology.

In the coming decades, the combination of AI and biotechnology will give us transcendent abilities to reengineer life, and even create new life-forms, including the superhumans. After four billion years of organic life shaped by natural selection, we are about to enter a new era of inorganic life shaped by intelligent design.



Sundar Pichai at World Economic Forum
Source: Yahoo Finance

Harari is not alone in his cautioning. At the same Davos event, Google's chief Sundar Pichai argued that AI needs to be regulated because it is too important not to. He added that AI is no different from climate - you can't get safety by just one company or country working on it - you need a global framework.

Elon Musk has also warned about the potential dangers of AI and calls for the creation of a regulatory body to guide its development. According to Musk, AI will threaten all human jobs could even spark a war. Musk also added that AI is also the biggest risk that we face as a civilisation. Also, Stephen Hawking warned that AI could be the "worst event in the history of our

civilisation" unless society finds a way to control its development. He argued that human is limited by slow biological evolution as such we could not compete while AI will take off on its own and re-design itself at an ever-increasing rate.

The counterargument: AI and tech will eventually lift productivity and create more jobs

The warnings about the danger of unregulated AI and tech are very important. Yet, history suggests that fearing innovation could be misplaced.

In 1790, 90% of all Americans were farmers; today it's less than 2%. But the farmer's job did not disappear. The agrarian economy morphed all the way into now the information economy.

Another case in point is the introduction of ATM machines in the banking industry. When banks rolled these out in the 1970s, people had serious concerns about bank teller layoffs. Between 1995 and 2010, the number of ATMs in the U.S. jumped from 100,000 to 400,000, but the expected mass teller lay-offs did not happen. This is because ATMs made it cheaper to operate banks, resulting in the number of banks branches to grow by 40%. As such, bank teller employment actually went up during this period.

Of course, this is not to say that job displacement is not going to happen. As in history, some jobs will fade from memory as the machines are taking over. At the same time, humanity has always been able to create new jobs. If history repeats itself, AI will first destroy jobs, and humans would create new ones. Jobs with lower educational requirements are likely to be lost to technology first. This would mean that tech and automation will initially worsen income inequality. It will get worse first before tech restores productivity growth and creates more jobs than it destroys.



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The Clash of the Titans



Heated debate on AI between Jack Ma and Elon Musk
Source: Yahoo Finance

The discussion about AI's impact on jobs (or even humanity) has triggered opposing views. The debate between tech moguls Jack Ma and Elon Musk is a case in point.

Jack Ma predicts AI will help create new kinds of jobs, which would require less of our time. He thinks AI will replace the boring, routine jobs, enabling humans to focus more on creative tasks. He thinks that people will work less and appreciate life better.

Meanwhile, Elon Musk thinks mass unemployment is a concern that frightens him. He believes that the last job that will remain in the future, will be writing the code behind AI. Although he also added that eventually, AI will just write its own software. Consequently, he thinks civilisation could end.

Meanwhile, Elon Musk thinks mass unemployment is a concern that frightens him. He believes that the last job that will remain

"I think people should work three days a week, four hours a day"

-Jack Ma-

"...the last job that will remain will be writing AI, although eventually, AI will just write its own software"

-Elon Musk-

Where are we?

To be better able to discuss the possible outcomes, we believe that it is best to understand where currently stand in the AI stage of development.



Narrow AI

Dedicated to assist with or take over specific tasks.

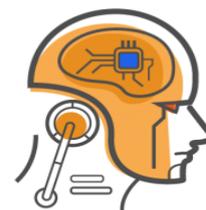
Jobs enhanced



General AI

Takes knowledge from one domain, transfers to other domain.

Job at risk?



Super AI

Machines that are an order of magnitude smarter than humans.

Humanity at risk?

Source: Apro Network

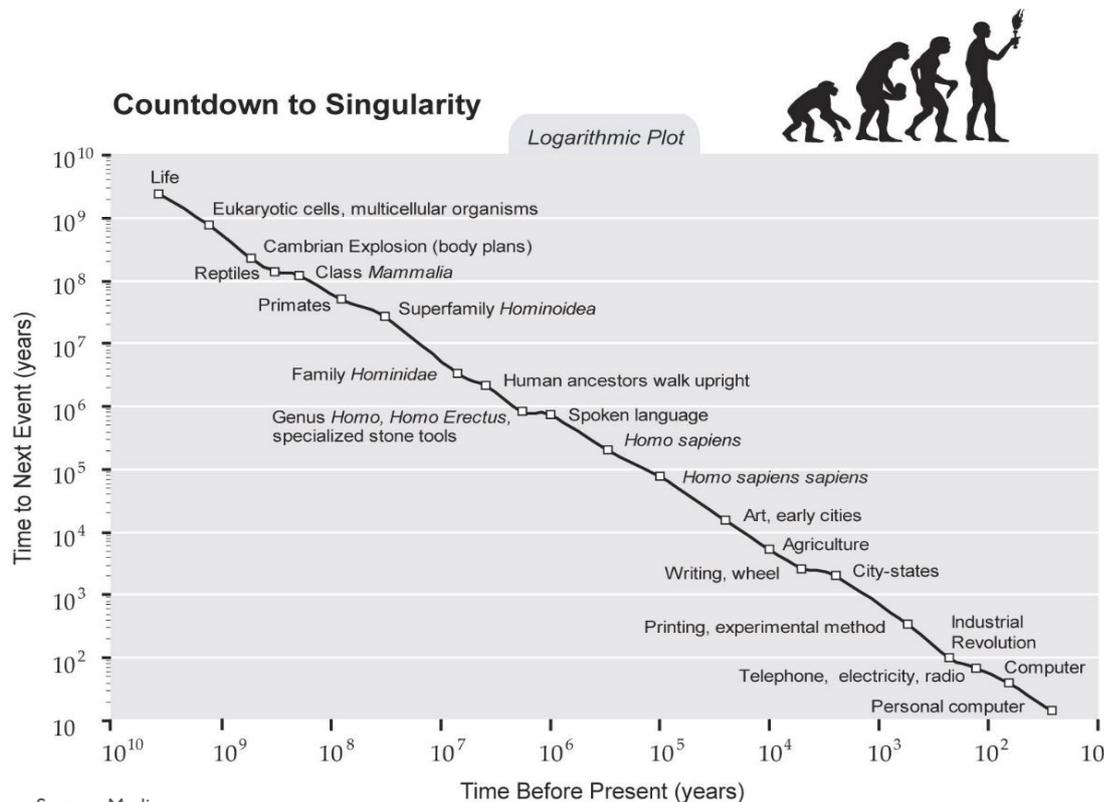


Three-stage of AI development:

Narrow AI or known as ‘Weak’ AI is the AI that exists in our world TODAY. They are programmed to perform specific tasks such as analysing data, image/voice recognition, etc. They do not have the self-awareness/consciousness and genuine intelligence to match human intelligence. Don’t get it wrong, though. Despite its current limitation, Narrow AI could outperform humans on these specific tasks such as playing chess, process complex data, etc. Such AI could relieve us from ‘boring’ and routine tasks which humans dislike.

General AI or known as ‘Strong’ AI refers to machines that have human intelligence. The Strong AI can perform any intellectual task that a human being can. The example of Strong AI is depicted in sci-fi movies like “Her” (2013) in which humans interact with machines and operating systems that are conscious and driven by emotion and self-awareness. Some experts like Ray Kurzweil, Google’s Director of Engineer predict that Strong AI or singularity may be developed by 2045¹.

Super AI or Artificial “Super” Intelligence has intelligence that is higher than humans in all aspects from creativity to problem-solving. At this point, technological growth becomes uncontrollable and irreversible which is also known as “technological singularity”. At this point, the machine takeover scenario is likely. Could this be the type of AI that Elon Musk and Stephen Hawking think will lead to the end of the human race as we know it?



A slightly brighter scenario is one where machines reinforce human abilities so that we will co-exist. Borrowing Harari’s terms, the technological singularity could probably lead to the emergence of “Superhumans” and the creation of the useless class. Here we are hopeful that the scenario that Jack Ma described in the debate with Elon Musk can take place in this Super AI phase.

¹ Christianna Reedy, “Kurzweil Claims That the Singularity will happen by 2045” Futurism. October 5th 2017. Retrieved from: <https://futurism.com/kurzweil-claims-that-the-singularity-will-happen-by-2045>



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About the gigantic question whether AI will be humanity's biggest blessing or curse, we will be quick to acknowledge that we are not nearly wise enough to even attempt to answer it. There are also so many moving parts including how regulators will respond to the profound changes introduced by AI.

One thing to note, however, is that the moment when AI may pose serious threats to jobs and humanity is probably still decades away. In fact, it might not happen at all if regulators regard risks to humanity are too high. As such, in this report, we opt to focus on the benefit of Narrow AI, especially in the emerging market.

We still have time to re-train our workforce before AI application taking place on a larger scale

One key question to ask is whether there will be enough time to retrain our workforce before a more advanced AI effects take hold?

The indication is that there is enough time. When looking at the development of autonomous vehicles, for example, commercialization seems to be a long way off.

In China, a place considered to be a fertile ground for an autonomous driving ecosystem, Baidu's self-driving trials involve a human safety driver behind the wheel. Just in case there is an emergency. It should be noted that Baidu is designated by the Chinese government as the country's national champion in autonomous driving. So, it is not quite a driverless trial, after all.



Not quite a driverless just yet
Source: Futurecar.com

Also, recent news reports that China is postponing plans for massive autonomous vehicle deployment from its original target by five years. This clearly shows that the tech companies are still struggling with the challenges of a truly driverless solution.

This example indicates that we humans have time to adjust and avoid being downgraded into the useless class, albeit painfully. It is also important to remember that in the transition period, the educational tech will make retraining easier and much more effective to gain technological fluency.

There is no distance on this earth as far away as yesterday.

-Robert Nathan-



Tech and Emerging Markets, Real-World Examples

Living in Indonesia, we have seen first-hand how technology is encroaching activities previously done by humans. This Narrow AI already has impacted humans' life significantly, especially in the emerging markets characterized by higher poverty, poor infrastructure and insufficient access to basic needs (i.e. healthcare).

The impact here is nothing short of phenomenal in terms of jobs and wealth creation (lifting millions out of poverty) and not to mention the multiplier effect on the economy. Furthermore, the impact on this Narrow AI did not cannibalize existing jobs.

For instance, fintech lending has not led to a decline in teller jobs or banking in general since these fintech firms are targeting customers who have no access to banking services. In fact, banks and fintech companies are collaborating, not only by expanding the customer reach but also by offering credit with lower interest rates.

Equally important, AI could assist in finding solutions to critical global issues such as climate change and pandemic events.

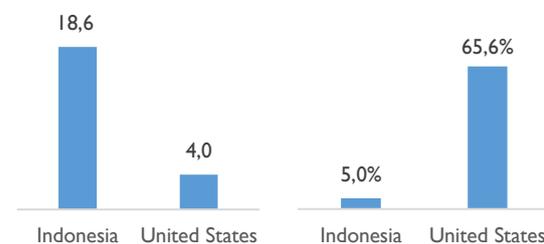
So far, the application of Narrow AI had limited downside and the impact has been very meaningful in solving the economic and global issues. As such, we think the implementation Narrow AI will continue to accelerate.

Below are the few examples on AI applications in credit scoring, agriculture, health-tech, and even climate change and pandemics.

Artificial Intelligence has accelerated financial inclusion in developing countries

- AI driven credit scoring technologies have enabled fintech firms to accelerate financial inclusion in Indonesia. They managed to reach out unbanked population in such short period of time, faster than the traditional banking.
- The number of fintech borrowers in Indonesia has even surpassed the comparable number in the US. This is not a surprise given that Indonesia has a significantly lower banking penetration as compared to the US.
- Case in point is Indonesian credit scoring tech firm Julo, that determines a borrowers' credit score by using data obtained through their mobile app and third-party data vendors. Julo is one of the fintech companies that facilitate financial inclusion in a country whereby 51% of the adults still have no access to bank loans.

No. of P2P fintech borrowers (left) and credit card penetration (right)



Source: World Bank, OJK, and companies' data

JULO, one of the leading fintech firms provides access to credit based on AI driven credit scores



Source: Google Playstore



Artificial Intelligence has enabled farmers and fishermen to improve their lives

- A machine learning app, PlantVillage Nuru (left) is used by farmers in Kenya, Mozambique, and Tanzania to identify leaf damage in photos taken by farmers. The gathered information is sent to the authorities to monitor invasive pest that threatens farmers' revenue.

According to the Penn state researcher, unidentified pests have caused US\$ 1bn damages in the region, especially in the East Africa where about 70% of population relies on the agriculture sector.

- An Indonesia tech-marine startup, Aruna (right) is digitizing the supply chain of the fishery industry. This will have a meaningful impact on the fishermen which make up for about 25% of Indonesia's poorest population.

Fishermen working with Aruna earn a minimum of 3x the national average fisherman's income (US\$ 240/month) and in the best cases this reaches be as much as 20x the national average (US\$ 1,035/month).

Image recognition app for African farmers which aids identifying leaf damage



Aruna, tech marine startup has increased fishermen income to 3x of national average



Source: Google Playstore, Instagram

AI-powered chatbot for health diagnostics to improve access to healthcare

- Ada Health, a Berlin-based health-tech company launched a Swahili-speaking (the language spoken by more than 100 million African) chatbot. This will significantly address the region's shortage of physicians. The West and East parts of Africa on average only have 1 physician per 10,000 people.

AI-powered chatbot has helped to overcome limited access to healthcare in Africa



Hi, I'm Ada.
I can help if you're
feeling unwell.

Source: Companies website

AI assists in tackling climate change issues

- The Ocean Agency uses AI to gather and analyze images of shallow-water reefs at scale and identify different types of corals based on their colors and textures. This data is very meaningful for scientists to track the effect of climate change on coral populations and to figure out how to ensure their survival.
- SilviaTerra saves scientists from countless hours of manual fieldwork by utilizing images collected from satellites to predict the size, species, and health of forest trees. This aids in protecting "Earth's lungs" and reduce climate change.

Climate change NGOs take advantage of AI in monitoring our sea and forest

THE
OCEAN
AGENCY™



SilviaTerra

Source: Companies website



AI is helping scientists to combat pandemics / epidemics, like Covid-19

- The controversial mass surveillance by the Chinese government seems to work favourably in the context of combatting the Corona virus. There are 350mn hi-tech surveillance cameras (equipped with facial recognition) in China which come in handy to track citizens and help contain the spread of the virus.
- Chinese tech firms deployed automated technologies to fight the Coronavirus: 1) Drones to transport medical samples and conduct thermal imaging, 2) High-tech helmets which can measure the temperature of anyone within a 5m radius, 3) Robots that deliver meals/grocery for residents/traveller in isolation.
- At the Provincial Center for Disease Control and Prevention in Zhejiang Province, AI helps scientist to track the Coronavirus mutations quicker and more precisely. It also shortens the time needed to analyse the gene of Coronavirus to just 30 minutes, which traditionally required one to two days to sequence.
- The Coalition for Epidemic Preparedness Innovations has announced three technology-driven programs to develop a vaccine ready for human testing for Coronavirus within 16 weeks, versus a process that has historically taken years.
- Veredus Laboratories, a Singapore-based molecular-diagnostic solutions company, has developed a portable “Lab-on-Chip” kit (a device that integrates one or several laboratory functions on a single chip) capable of diagnosing all forms of Coronavirus accurately within two hours.
- The efficiency gains that AI is already delivering at this stage indicates a powerful trend that will change healthcare forever.

Mass surveillance has helped the government in tracing the potential spread of the virus



Source: Companies website

Police officer wearing a smart helmet to measure the temperature of passengers (left), Robot delivers meals for quarantine residents (rights)



Source: news-medical.net

Disinfecting drones in public spaces and on travelling vehicles



Source: CNN.com



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Tech, to lower or increase productivity?

It's time to reflect on how some emerging countries have been reshaped by startups and their technologies. The size and speed by which these EM tech firms have grown, led to deep changes. Granted, when it comes to getting online, play often dominates work, and leisure overtakes labor. Still, there is plenty of evidence that such technologies enhance productivity as we previously described.



*Latte art by our self-taught
Barista*

Moreover, sometimes it might be alright to mix work with pleasure. An Economist report *“How the pursuit of leisure drives internet use”* dated June 8th, 2019 suggests that low-income internet users are interested in work-related possibilities.

Case in point: our office helper spends a lot of his free time playing with his smartphone. Of course, he was using social media and entertainment apps. Unexpectedly, he surprised us with his latte art skills that he picked up from watching YouTube videos. At his current skill level, we believe he is probably qualified to work as a barista for a craft coffee shop or at Starbucks Reserve.



Investing in AI: Super-app

Without data, there is no AI.

As such, investing in AI is basically investing in a company whose platforms generate and own a massive amount of data. China, a country with a more developed tech ecosystem, has led the development of super apps with platforms such as Alibaba and Tencent.

Places like Indonesia have taken a cue from China and have developed platforms like GO-JEK and GRAB. Without any shadow of a doubt, we believe that this model will be replicated in the frontier market like in Africa.

There are several similarities between the market in Africa and emerging markets such as Indonesia, namely large populations, congested cities, less than robust infrastructure, and a low banking service penetration. These challenges present disruption opportunities for a “super-app”.

And just like what happened in Indonesia with GO-JEK, the disruption journey began with the ride-hailing as a starting point given the high-frequency use cases to eventually becoming a financial service provider. This is where the platform can really start monetising their customer data.

Super-app in the making: Safeboda

Safeboda first launched in Kampala, the capital city of Uganda, which has a 1.4mn population and is plagued by heavy traffic and many traffic incidents. Uganda loses 10 people per day in road traffic crashes, the highest level in East Africa. Now, Safeboda also operates in Kenya and Nigeria which

in combination has a total population of 283.5mn people, even bigger than GO-JEK’s core market, Indonesia.

The solution for its heavy traffic, like Jakarta, exists in conventional motorcycle taxis called Boda-Boda (just like the word “Ojek” in Indonesia). According to Uber Africa’s General Manager Alon Lits, there are nearly 2 million weekly motorcycle taxi trips happening in Kampala.

However, conventional motorcycle taxis are often unsafe, require the client to negotiate prices and drivers often (claim to) have no change. We believe these presents an attractive market for a ride-hailing app and e-wallet, such as is the case in Indonesia.



Ricky Rapa Thomson, From a motorcycle taxi driver to a start-up co-founder

Source: PC Tech Magazine

Yet, various other ride-hailing companies have recently begun penetrating the market, without a clear winner in sight. The emergence of ride-hailing services has created a massive entrepreneurial opportunity; Safeboda has more than 17,000 drivers as of Feb’20, from only 8,000 at the end of 2019.

Countries	Economy		Population and urbanisation				Financial and digital inclusion		
	GDP per capita (current US\$)	GDP growth (annual %)	Population, total (in mln)	Pop. density (people per sq. km of land area)	Urban population (in mln)	Urban population (% of total)	Account at a financial institution or mobile-money- service provider (% of pop. ages 15+)	Individuals using the Internet (% of total)	Mobile cellular subscriptions (per 100 people)
Kenya	1,508	4.9	49.7	87.3	13.2	26.5	81.6	26.0	80.4
Nigeria	1,969	0.8	190.9	209.6	94.3	49.4	39.7	25.7	83.0
Tanzania	936	7.1	57.3	64.7	18.9	33.0	46.8	13.0	72.1
Uganda	604	4.0	42.9	213.8	7.2	16.8	59.2	21.9	55.0
Bangladesh	1,517	7.3	164.7	1,265.0	58.9	35.8	50.0	18.2	83.4
Indonesia	3,847	5.1	264.0	145.7	145.7	55.2	48.9	25.4	147.7

Source: World Development Indicators, World Bank, retrieved from <http://databank.worldbank.org>. Data with respect to internet use and cellular subscriptions are related to 2016, while the other variables are related to 2017.



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Safeboda has improved the lives of many Boda drivers and facilitated safer and more convenient transportation for millions of passengers in Africa.

Safeboda also adopted the strategy to expand its services beyond transportation while its competitors such as Uber and Bolt (Taxify) still focus solely on transportation (see the figure below).

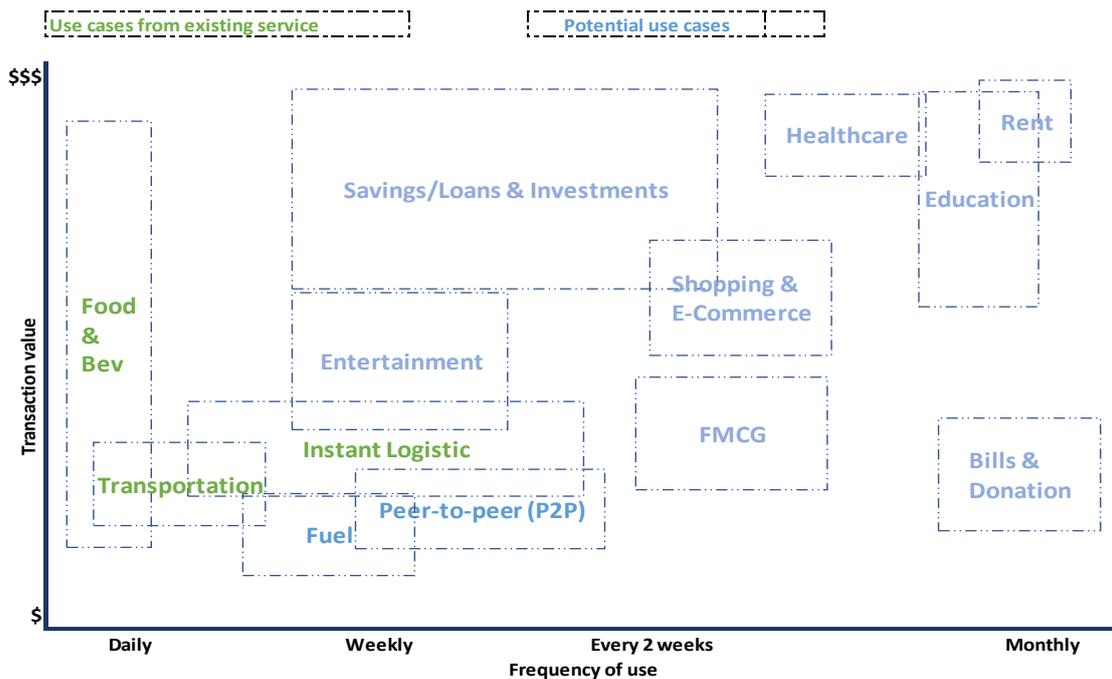
Safeboda now has four services outside of transportation which are food, instant logistics, payments, and financial services. The path sounds remarkably familiar, doesn't it?

As we mentioned in our 3Q 2017 report, platforms that are dominant in a certain vertical, can add adjacent verticals with more ease and are well placed to building an ecosystem (see the graph).

More use cases of an app will increase along with its number of users, which in turn will generate more data. This is where AI can be leveraged, from providing hailing route recommendations to credit scoring for their e-wallet users. This will be the starting point to eventually provide all kinds of financial services, which will make the platform extremely valuable.

	Focus	Financial Services	Food	Transport	Payments	Instant Logistic
	Mass-market	✓	✓	✓	✓	✓
	High-end	Limited	Limited	✓	✗	✗
	High-end	✗	✓	✗	✗	Limited
	Mass-market	✓	✗	✗	✓	✗
	High-end	✗	✗	✓	✗	✗

Safeboda offers the most use cases relative to other major platforms in Africa.



Road to become the leading e-wallet platforms



Insurtech reshapes the insurance industry

Below we list some existing challenges of the insurance industry and how technology can help:

1. The traditional channel in which 90% of insurance products are distributed through agents, brokers and banks is costly.

Solution: insurance product purchases will be cheaper through online channels, as less middleman are involved, requiring less sales commissions.

Example: ZhongAn P&C Insurance (6060 HK), the first online-only Chinese insurance firm, handles its sales and claims entirely online.

2. Products are homogeneous and often do not meet customer demands.

Solution: Big data and IoT devices (inc. wearable) will lead to personalised insurance products such as usage-based insurance policies.

Example: Telematics enables usage-based car insurance. The premium will be based on your driving behaviour. In the US, there are approximately 8 million usage-based car insurance policies in 2018.

3. Inefficient and troublesome claim assessment.

Solution: Artificial intelligence (i.e. facial recognition and image processing) enables an instant claim settlement which will improve efficiency and customer satisfaction.

Example: PingAn Insurance, the largest Chinese insurance company, adopted an intelligent loss assessment process using a deep learning algorithm to analyse massive amounts of data and perform loss assessment based on images. It has allowed the company to grow to more than 200 million customers as of Dec'19.

In Indonesia, the insurance industry is still very nascent. As such, accelerating the insurance industry inclusion is a very interesting opportunity.

²Otoritas Jasa Keuangan. Strategi Nasional Literasi Keuangan Indonesia (Revisit 2017). December 2017. Retrieved from: [https://www.ojk.go.id/id/berita-dan-kegiatan/publikasi/Documents/Pages/Strategi-Nasional-Literasi-Keuangan-Indonesia-\(Revisit-2017\)-SNLKI%20\(Revisit%202017\)-new.pdf](https://www.ojk.go.id/id/berita-dan-kegiatan/publikasi/Documents/Pages/Strategi-Nasional-Literasi-Keuangan-Indonesia-(Revisit-2017)-SNLKI%20(Revisit%202017)-new.pdf)

Insurtech opportunity in Indonesia: access, information and affordability

Tackling the access and information barrier through empowering insurance agents

The insurance industry inclusion in Indonesia is still very low at 12.1% according to the financial services authority survey². The main challenges are lack of access and information. As such, it is very natural that most of the insurtech startups started as an aggregator and comparison website for insurance products.

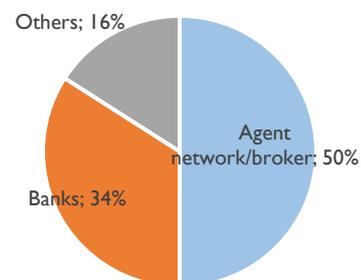
While online insurance sales have started to yield positive results, insurtech firms in Indonesia still contribute to only about 12% of the total gross written premium.

The reality is that companies that solely focus on the online channel faces a formidable challenge in communicating complex insurance products. As such, insurance agents still play a big role in educating customers about insurance products.

Since life insurance represents about 2/3rd of the insurance industry in Indonesia, we will focus on this below. According to the Indonesian Life Insurance Association (AAJI), agents and brokers channel about 52% of gross written premiums.

Agents/brokers is still the main distribution channel for insurance in Indonesia

Life insurance distribution channel In Indonesia



Source: Association of Life Insurance Indonesia (AAJI)

[kegiatan/publikasi/Documents/Pages/Strategi-Nasional-Literasi-Keuangan-Indonesia-\(Revisit-2017\)-SNLKI%20\(Revisit%202017\)-new.pdf](https://www.ojk.go.id/id/berita-dan-kegiatan/publikasi/Documents/Pages/Strategi-Nasional-Literasi-Keuangan-Indonesia-(Revisit-2017)-SNLKI%20(Revisit%202017)-new.pdf)



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Currently, there are approximately 585,000 agents/brokers that serve 17.4mn people. The association noted that the ideal number of insurance agents required to serve the Indonesian population well is closer to 1 million.

Consequently, a platform that makes it easy to become an insurance agent, or one that empowers existing agents, could be a very scalable business.



Source: Tribbunnews (left), Asosiasi Asuransi Jiwa

Fuse, an Indonesia-based insurance firm, enables agent partners to offer multiple insurance products and provide real-time calculation to their customers through their app, Fuse Pro.

By using the fully digitalised Fuse platform, agent partners receive commission disbursements much faster as compared to traditional ways of distribution using paper forms.

Fuse is connected to 30 local and international insurance companies in Indonesia, which are partnering with 15,000 agents and looking to increase its partner base to 100,000 in 2020.

Insurtech microinsurance makes it affordable

Indonesia is still categorised as a lower income developing country. Therefore, the majority of the population may not be able to afford to purchase traditional insurance products. This is a big opportunity for insurtech microinsurance vendors such as Pasarpolis.

As we mentioned in an earlier report, PasarPolis is an insurtech startup focusing on microinsurance products and is backed by three of Indonesia's unicorns, being GO-JEK, Tokopedia, and Traveloka.

For example, Pasarpolis provides micro health insurance products for GO-JEK drivers with

premiums starting from only IDR 2,300 (US 0.16)/day or about than 1.5% of their daily income. This insurance could cover up to IDR 25mn for each inpatient case.



Recently, Pasarpolis and GO-JEK launched a product called "Go-sure" in the GO-JEK app. Through Go-sure, they sell insurance policies for smartphone screen protection, travel, motorcycle, and home protection. As their focus is microinsurance, the premium is very affordable. Examples are listed the table below:

	Premium (starting from)
Motorcycle protection	IDR 50,000 (US\$ 3.5)/year
Travelling (Flight cancellation)	IDR 17,500 (US\$ 1.2)
Smartphone screen protection	IDR 20,000 (US\$ 1.4)/year
Home Protection (flood)	IDR 60,000 (US\$ 4.2/month)

The benefit of these policies could cover up to IDR 2-3mn (US\$ 141-211)

With these insurtech companies entering the stage, we believe insurance inclusion in Indonesia will accelerate. We will look at this space very closely and look out for the potential beneficiaries of this trend.

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-The End-