



# FUNDAMENTAL ANALYSIS OF PROFIT GROWTH IN STARTUP COMPANIES AND UNICORNS IN INDONESIA AND AUSTRALIA

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## ABSTRACT

Compared to Indonesia, Australia has a higher score, both in the Global Entrepreneurship Index (GEI), which measures the health of the business ecosystem and in the Ease of Doing Business (EODB), which measures the ease of doing business in a country. This condition indicates that Australia has a climate that is more supportive for the growth of this sector. However, in reality, the number of startups and unicorns in Indonesia can surpass those in Australia. For this reason, this research aims to analyze other factors that can influence the business ecosystem and sector growth by comparing conditions in the two countries. It is hoped that the results of this research will be able to explain the growth of companies in Indonesia and Australia from the perspective of fundamental analysis in companies. The benefit of this research is to make a scientific contribution to the science of financial accounting and solve problems for companies in predicting bankruptcy. The output of the targeted research is publication in international journals

**KEYWORDS:** Net\_profit\_margin; debt\_to\_equity; total\_aset\_turnover; unicorn; startup

## INTRODUCTION

Globalization and technological developments have changed all aspects of life, including the digital shift where economic and social activities with the help of technology have had an impact on the entire economy. Human dependence on technology can be used as a business opportunity to improve the economy. Some people have taken advantage of this opportunity to establish startups or start-up companies to provide high-tech digital platforms that can make human life easier. McCauley and Gruszka (2018: 22)[1] define startups as businesses that are young, small, high growth, and aim to use technology to gain wider market coverage. From the Forbes page written by Dane Stagler (2019) it is stated that the global startup economy since 2017 has generated more than US\$2.8 trillion in economic value. This value has increased by 20% when compared to the previous two year period. This kind of increase is also influenced by the rapid growth of a number of startups which have reached a valuation of more than US\$ 1 billion, or commonly referred to as unicorns (Lee, 2017) [2]. This phenomenon is very rare and difficult to capture, which is why these companies are nicknamed unicorns.

The growth of startups and the emergence of unicorns is influenced, among other things, by the ease of starting a business and the business ecosystem that exists in a country. Data from the Ease of Doing Business (EODB) Report which is elaborated with the World Bank (2021)[3] shows that in 2019, Australia was ranked 18th while Indonesia was ranked 73rd in the ease of starting a new business in every country. Higher ratings indicate better and simpler regulations for businesses, and stronger property rights protection. The EODB score is derived from measuring the processes for merging businesses, obtaining building permits, obtaining electricity connections, obtaining property, gaining access to credit, protecting minority investors, paying taxes, engaging in international trade, enforcing contracts and resolving insolvency. From the measurements above, Australia's EODB value was 80.13, while Indonesia's was 67.96. This value makes Australia ranked in the top 20 at the level of "very easy" to start a business. Australia itself is also a member of the high-income OECD members which are considered to have the best economy in the world (World Bank, 2021)[3].

The easier it is to start a business in one country means the lower the barriers to starting. Lower entry costs encourage entrepreneurship, increase firm productivity, and reduce corruption. These humble beginnings can then turn into bigger job opportunities. On the other hand, Indonesia's ranking of 73rd should make it difficult for its citizens to start new businesses, including building startups. The business convenience value in question can be described in the following table

**Table 1. Comparison of Ease of Starting a Business Rankings**

Economy	AUSTRALIA	INDONESIA
EODB Rating	18	73
Rules for Starting a business	7	134
Obtain a Construction Permit	9	112
Getting Electricity	52	33
Acquiring Property	50	100
Getting Credit	8	44
Protection of Minority Investors	64	51
Paying Taxes	26	112
Cross-Border Trade	103	116
Enforcing Contracts	5	146
Resolving Bankruptcy	20	36

From this table, the value or score for ease of doing business in terms of dealing with construction permits in Indonesia is 66.57, placing the country in 112th place out of 190 economic countries. In Australia, the score reaches 84.59 which leads the country to rank 9. The ease of registering property in Indonesia is 61.67, where this score is ranked 100th, while Australia is ranked 50th with a score of 74.09. Getting credit in Australia is also easier than in Indonesia, where the ease of getting credit in Australia is ranked 8th with a score of 90.00, while in Indonesia it is ranked 44th with a score of 70.00. Paying taxes in Indonesia is at the 112th level while Australia is at the 26th level. Indonesia's ranking with a score of 68.03 is too far from Australia which has a score of 85.64. Indonesia's cross-border trade is ranked 116th while Australia is ranked 103rd. Australia is also superior in the field of enforcing contracts and resolving bankruptcies compared to Indonesia (World Bank, 2021) [3]

Of the nine categories or indices that are used to calculate the ease of starting a business in a country's economy, Indonesia only outperforms two of them, namely in terms of protecting minority investors and ease of getting electricity. Australia's minority investor protection score is 60.00 and is ranked 64th, while Indonesia is ranked 51st with a score of 63.33. The ease of obtaining electricity is topped by Indonesia which is ranked 33rd with a score of 86.38, while Australia is ranked 52nd with a score of 82.31. A country with a high EODB ranking does not always outperform all categories within it. In this case, Australia has a higher EODB ranking but Indonesia outperforms Australia in the two things mentioned above (World Bank, 2021)[3]

However, these obstacles do not make it difficult to start a business or give birth to a startup in Indonesia. Even though in 2019 the two countries were both in the top ten countries with the most startups, Indonesia's ranking was higher than Australia's, as was the number of unicorns. The University of Technology Sydney, Atlassian, Google, the federal government, and MYOB collaborated with Data 61 to calculate the number of startups in Australia and found that in 2017 there were 1,675 while in 2018 the value decreased to 1,465. Meanwhile, as reported on the startup registration site, startupranking.com (2019), the number of startups in Indonesia in 2019 was 2,193 and was even able to occupy fifth position in the world. This number is only behind four other countries, the United States, India, England and Canada. This number is recorded to continue to increase from year to year. On the other hand, in 2019 the number of startups in Australia decreased again to 1,402 occupying eighth position (Startup Ranking, 2019). However, when compared to the population, the number of startups in Australia is higher than in Indonesia.

In the same year, Indonesia was recorded in CBInsight (2020)[4] as having succeeded in giving birth to five startups which were nicknamed unicorns. The five unicorn companies are Tokopedia, Traveloka, Bukalapak, OVO, and Go-Jek which have even reached decacorn level because they have reached a valuation of US\$10 billion. Go-Jek is an on-demand application that has held the unicorn title since August 4 2016 and the decacorn title in April 2019. Decacorn itself is the nickname for a startup that has reached a valuation of more than US\$10 billion. Furthermore, Tokopedia is an online marketplace that has reached a valuation of US\$ 7 billion since December 2018, Traveloka is a travel technology application that has reached a valuation of US\$ 2 billion since July 2017, and Bukalapak is an e-commerce that has successfully received the unicorn title since November 2017. OVO is a financial technology platform that became a unicorn on March 14 2019.

On the other hand, Australia has three unicorns, namely Canva, AirWallex, and most recently Judo Capital which achieved unicorn on July 29 2019. The number of unicorn companies owned by Australia is less than the number of unicorn companies in Indonesia (World Bank, 2021). Canva itself has reached a valuation of US\$1 billion since January 2018 and by the end of 2019 had reached US\$3.2 billion, which was an injection from Sequoia Capital China, Blackbird Ventures, and Matrix Partners. Canva is a graphic design platform while AirWallex is a cross-



border financial-based startup. AirWallex managed to achieve a market valuation of US\$1 billion since March 2019 from DST Global, Sequoia Capital China, and Tencent Holdings. Judo Capital itself is a platform created by Australia's Judo Bank which focuses on providing loans to small and medium businesses. By the end of 2019, Judo Capital had achieved a valuation of US\$1.04 from Credit Suisse, OPTrust, and Ironbridge Capital (World Bank, 2021).[3]

Australian Minister and several Australian business people to Indonesia (Kominfo, 2018c). It is stated that Indonesia has demographic advantages that can support the growth of the digital economic sector in the future. In 2030, it is predicted that the number of people of productive age will be greater than the number of people who are not or are no longer productive, namely reaching 64% of the total population which is projected to reach 297 million people (Kominfo, 2019b).

Several indicators have indicated that the conditions in Australia should be able to support the birth of various start-up companies and encourage them to become unicorn companies. The condition of the business ecosystem and the score for the ease of starting a business in Indonesia, which is no better than Australia, should be an obstacle for the country to excel in this field. However, until the end of 2022, the number of startups and unicorns in Indonesia is higher than in Australia.

The problems formulated in this research are: 1) Does Net Profit Margin affect profit growth?; 2) Does Total Asset Turn Over have an effect on profit growth? 3) Does the Debt to Equity Ratio have an effect on profit growth?

### **Types of Research**

The type of research used is causal research. This research aims to test the hypothesis about the influence of several independent variables (x) on the dependent variable (Y). According to Sugiyono (2018) Causal relationships are relationships that are cause and effect. So here there are independent variables (variables that influence) and dependent (influenced). The research process flow is presented below

This research falls into the realm of explanatory research because this research aims to explain the causal relationship between variables through hypothesis testing. Some of the things that will be discussed include: research objects, research design, population and samples, types and sources, data collection techniques, data testing and data analysis methods

### **Population, Research Sample and Data Collection Methods**

The sample chosen in this research consisted of startup and unicorn companies in Indonesia and Australia. The financial data used in this research was taken from cash flow reports, profit and loss reports and financial position reports from 2020 to 2022

Sampling was carried out using purposive sampling which is part of the non-probability sampling method. For members of the population who do not meet the requirements, they are not selected as research samples.

Sampling is based on the following criteria:

1. Startup companies and Unicorns in Indonesia and Australia in 2020-2022
2. Startup and Unicorn companies whose Financial Statements can be accessed and found in 2020-2022

The data collection method in this research was carried out in several ways as follows:

1. Documentation, namely the collection of data available on the research object, in this case in the form of financial report documents of companies listed on the Indonesia Stock Exchange which are downloaded from the site <http://www.idx.co.id/> and related company websites.
2. Literature study, namely from literature related to the problems in writing this research. By collecting data that is related to the object of discussion, which can be obtained through studying, analyzing, researching and reviewing books, accounting journals, as well as from various websites of each sample company related to this research.

The data analyzed in this research is quantitative secondary data obtained from the publication of financial reports, annual reports, sustainability reports and others.

### Variable Operationalization

The operationalization of each variable is presented in the following table:

No	Variable	Formulation	Scale
Dependent			
1	Profit Growth (Y) Harahap (2015: 310)	$Y = \frac{Y_t - Y_{t-1}}{Y_{t-1}} \times 100\%$	Ratio
Independent			
2	NPM (X1) Hery (2017:199)	$NPM = \frac{Net\ Income}{Sales}$	Ratio
3	TATO (X2) Kasmir (2016: 286)	$TATO = \frac{Total\ Sales}{Total\ Assets}$	Ratio
4	DER (X3) Ross (2018: 67)	$DER = \frac{Total\ Liabilities}{Total\ Equity}$	Ratio

## DISCUSSION

### Indonesia's Demographic Character and Its Impact on Startups and Unicorns

The report issued by the United Nations (2019:8) indicates that in 2050, it is projected that more than half of the population increase that occurs throughout the world will be concentrated in nine countries around the world, of which Indonesia is included. Other research shows that Indonesia is also experiencing a population explosion where as of 2016, 52% of the country's total population was under 30 years old. This trend is predicted to continue for several years and will reach its peak in 2060 (Prabowo, 2019). In 2030, it is estimated that Indonesia will have 170 million people with incomes above US\$ 3,600 per year. In the same year, it is projected that there will be around 135 million Indonesians in the consumer class, of which 130 million are under 40 years old (Oberman et al., 2012). The economic growth trend in Indonesia is also one of the benefits of a number of increasing positive trends in terms of demographics. In other words, demographic reasons have created economic potential in the country. In this case, rapid growth also occurred in the number of internet users. This growth then gives rise to large market potential which can support faster development and growth of startups.

This potential can be seen, one of the ways, from the rapid increase in active internet users as can be seen in Figure 2. Active e-commerce users, for example, increased by 101 million users to 150 million in 2019 from initially 49 million users in 2015. Users ride-hailing also experienced a five-fold increase from initially 8 million active users in 2015, rising to 40 million in 2019. In other research, it was found that from 2018 to 2019 there was an increase of 13% or more than 17 million internet users in Indonesia. This number is the 4th highest value in the world after India, China and the United States, which are the three countries with the largest number of unicorns in the world (Kemp, 2019).

This increase in the number of internet users then influences the increase in online service providers, goods and services. The last few years have been golden years for Indonesia in terms of the growth of internet activity. The internet activities in question can take the form of online shopping through e-commerce, use of travel ticket booking services, ride-hailing, online media, payments via financial technology, online learning, and other services presented by startup founders to answer various problems that arise. appear in life.

Various services offered by startups have increased the Total Internet Transaction Value (GMV) in Indonesia. GMV from e-commerce has again experienced a sharp increase, in line with the increase in active users in this country. Total transactions reached US\$21 billion in 2019, which is an increase of 88% from US\$1.7 billion in 2015. The next highest increase was in the total transaction value from ride-hailing, followed by online media, and then online travel in bottom position. The total value of transactions in Indonesia is centralized in several large cities, where the total value of transactions per capita in the Jakarta, Bogor, Depok, Tangerang and Bekasi areas is \$US555 while in other areas it is US\$103 (Eka, 2019).

In fact, in January 2019, as many as 86% of the total Indonesian internet users surveyed had purchased something online. Australia is actually in 24th position with a percentage of 69% and is below the worldwide average (GlobalWebIndex, 2019a). In this case, the increasing use of e-commerce, accompanied by increased skills and innovation, will play a role in increasing job creation, as well as helping prepare individuals for the challenging and ever-changing job market in the future. Furthermore, innovative startup companies can drive huge growth in the industry and contribute to overall economic growth.



Furthermore, if we look at the time spent using social media, Indonesian internet user respondents rank 4th in the world with an average of 3 hours 46 minutes spent a day. Meanwhile, Australia is in 35th position where in one day, the average person uses social media for 1 hour 31 minutes. In this case, the use of social media plays an important role in introducing products, companies, and instilling company values in consumers. Apart from that, through social media, it is also easier for business people to target their market through the use of algorithms. In the same way, business people can find out what consumers' needs and desires are and fulfill them. Social media allows companies to introduce their products and find out the value of consumers to grow their business. Word-of-mouth communication between companies and consumers via social media has proven effective for start-ups to reach and retain consumers or customers (Basri & Siam, 2017:245).

It can be understood that the higher the number of internet users in a country, the higher the internet activity of its people. These activities can take the form of social networking, file sharing, online games, electronic mail, payments and banking, learning, shopping, and so on. That way, internet-based service providers such as startups will benefit. As has been mentioned, companies like this generally provide a platform or service that can make people's lives easier, such as the need to shop online without having to go to a physical store, buying food without having to go out, or making payments or paying bills in person. one application.

This condition is in accordance with what was stated by Shaqiri (2015) that companies that utilize new technology can create market-oriented competitive advantages that meet consumer needs. The conveniences offered by internet-based service providers are able to shift old habits into a new culture that will continue to be carried out and become a new culture. The habit of Indonesian people to shop online, for example, has made this country rank first in the world in terms of the number of internet users who buy goods online.

The author sees that this condition indicates a reciprocal relationship between startups and unicorns as service providers and society as consumers. The convenience offered by such companies has increased people's dependence on continuing to use the services offered. Then, the increase in the number of service users also has an impact on increasing demands for companies to continue providing services that can remain relevant and provide answers to the problems faced by society. If you look at graph 4, you can see that the largest number of startup founders is Generation Y with an age range of 24-37 years, followed by Generation X with an age range of 38-53 years, and Generation Z with an age range of 18-23 years. The data does not show any startup founders over the age of 53 years. This figure is directly proportional to the population of Indonesia based on age groups as shown in graph 5.

From 2015-2018, the majority of Indonesia's population is of productive age (15-64 years) and it is even projected that until 2045 the graph will continue to rise. The population of the productive age group in 2015 was recorded at 174.7 million people, or 68% of the total population in the same year. The number of people of unproductive age also exceeded the number of people who were no longer productive. In 2015, the number of unproductive people was 66.4 million people or 26% of the total population, while the unproductive population was 14 million people or 6% of the total population. In this way, this projection has the potential to benefit the country's economic growth through the emergence of startups in the future.

In fact, in Indonesia the business ecosystem score is no better than the score in Australia. However, what happened was that Indonesia was able to surpass Australia in the number of startups and unicorns. For this reason, the author sees that the GEI calculation is not always relevant in this case, even though in fact the ecosystem may have an influence in other cases and in other countries. Indonesia has a different and diverse population and consumption habits, which are also related to geographical reasons for each region. Indonesia also has a large market, but this is also accompanied by large competition, also considering that this country is home to more than 2000 active startups. If a startup is formed, it is possible that other people have done almost the same thing. Therefore, a fast and prominent strategy is needed for a startup to be able to grow quickly. John Fitzpatrick (in Greenhouse, 2019) sees that the most successful startups and unicorns in Indonesia generally have what is called a "transformational mindset". Unicorns generally continuously accelerate and innovate to continue to grow and develop.

This condition is also reinforced by a study conducted by McKinsey (2013) which found that 60% of Indonesians claimed to prefer using locally branded products. Therefore, founders who are able to form a local startup that is familiar and not far from the needs of the community and which is easily accessible, the startup will grow big in that country. Through this research, it can be understood that local Indonesian startups have an advantage in being able to more easily enter the market in their own country



The success of unicorns in Indonesia is related to how the founders were able to understand demographics and find out market demand and solutions to problems that did not exist before. From this it can be seen that the five Indonesian unicorns are able to provide something different, and which is familiar to Indonesian consumers (Greenhouse, 2019). Go-Jek, for example, came up with the main idea by providing a platform that could be considered familiar with the needs of local residents, especially residents of the Indonesian capital, Jakarta, where this startup was born. The services provided by Go-Jek are truly related to the basic needs generally felt by Jakarta residents, namely the problem of never-ending traffic jams. Go-ride, for example, is one of the services provided, namely on-demand motorcycle taxis which are aimed at solving the problem of users who want to break through Jakarta's traffic jams at busy times, or for example Go-car which provides on-demand taxi services for those who want to go somewhere, without having to drive yourself.

This situation can also be found in other unicorn startups such as Traveloka, for example. Traveloka makes it possible and easy for consumers to buy public transportation tickets, book hotels, and so on, where these services are the answer to the complicated problem of booking tickets and hotels using conventional methods, where consumers need to come, queue, and fill in the booking form manually at counter or go to the hotel to order. In addition, Tokopedia and Bukalapak allow people to buy and sell goods online with guarantees provided to avoid fraud which often occurs in online transactions. Apart from that, the two unicorns also allow people to buy or sell things just by tapping their hand on their smartphone, making it easier for users.

Meanwhile, OVO also provides financial technology services for paying cashless, buying internet data, and even paying various bills through a simple application. The things above show that simple concepts such as local brands and "familiarity" with the situation will be easily accepted by consumers or customers. Most startups in Indonesia also take advantage of local businesses to develop their business. Startups and unicorns in Indonesia mostly utilize the country's economic pillar, namely MSMEs. The MSME sector is one of the many sectors and generally always needs support, development and organization. These three needs can be simplified by using a technology platform. That's why unicorns emerge and embrace the MSME sector to provide a platform that will also be beneficial for themselves.

### **Population Aging in Australia and Its Impact on Startups**

From the official website of the World Bank (2019) it is stated that the total population in 2018 in Australia was 24,992.37 million people, while in Indonesia it was 267,663.43 million people. Furthermore, this population is also related to the fact that the world population continues to grow, although the growth rate of each country will be different. The world population is experiencing an unprecedented phenomenon of population aging. The report issued by the United Nations (2019:8) indicates that for the first time in history, in 2018 the number of people aged 65 years or over worldwide exceeded the number of children under the age of five. Projections show that by 2050 there will be more than twice as many people over 65 as children under five. In fact, the number of people aged 65 years or over globally will also exceed the number of teenagers and youth aged 15 to 24 years (UN, 2019: 8).

The phenomenon of population aging occurs when the proportion of the elderly population continues to grow over time. From table 2, it can be seen that the population aged 65 years and over is projected to increase in 2020 and the number is also relatively higher than the population aged 5 years and under. From the official ABS website it is also stated that in 2017, of the total unproductive population, 57% or 2.2 million of the population was aged 65-74 years, 30% or 1.2 million of the population was aged 75-84 years, and 13% of aged 85 years and over. In fact, over the past two decades, the population over 85 years old has increased by 117.1% compared to population growth of 34.8% in the same period.

This could then hamper economic growth in the future, even though Australia has a relatively high score in terms of business ecosystem and ease of starting a business. Bönnte (et. al., 2007) has previously said that demographic change will be one of the main challenges for economic policy in developed countries including Australia. From the Parliament Budget Office report (2019), it is said that this population aging phenomenon has experienced the sharpest increase since 2011 when the first generation of baby boomers reached the age of 65 and entered retirement age. This kind of demographic change has the effect of reducing labor force participation which leads to a reduction in national income. In addition, greater expenditure is also imposed on the Australian government to establish programs to support the aging population. Projected over the next 10 years, an aging population subtracts 0.4 percentage points from annual real income growth and in turn adds 0.3 percentage points to annual real spending.



Startup founders actually need to really understand the information needed in the future and take advantage of existing opportunities. Founders also need to organize their individuals and prepare the courage to face existing and future risks. This statement is related to data written by PwC (2013) which states that startup development is also related to what is called fear of failure. A country will outperform other countries in terms of early-stage entrepreneurial activity if its individuals are not disturbed by the fear of failure in starting a new business or in developing it. This fear can be in the form of the nature of the country's economic climate which then gives rise to fear of failure or a culture of avoiding big risks that has been embedded in the minds of its people, as happened in Japan. Culture also influences the level of fear of failure in a country and then becomes a real obstacle to entrepreneurial activity. This statement is also in line with business ecosystem indices which also include cultural support as one of the pillars that influences the ecosystem itself.

In this case, Australia does have the best regulatory environment and a culture of openness which then strengthens this sector. However, Australia also has a high level of fear of failure in its society, which is much higher than many other innovative countries such as the United States and Canada (PwC, 2013). This fear of failure is what then hampers the startup sector in the country. Therefore, to create significant conditions for the development of this sector, Australia needs to continue to develop a culture of openness and inclusion to encourage increased individual participation. The increasing fear of failure is related to the population aging phenomenon occurring in Australia. Population aging is accelerating due to lower fertility rates and increasing life expectancy from year to year.

**Comparison of Life Expectancy Rates for Indonesia and Australia**

	2013	2014	2015	2016	2017	2018	2019	2033	2050
<b>Australia</b>	82.1	82.3	82.4	82.4	82.5	..	83,2		87,1
<b>Indonesia</b>	70.2	70.5	70.8	71.0	71.3	..	76,5		80,8

From the table above it can be seen that from year to year, life expectancy in both countries continues to increase, except in Australia in 2015 and 2016. Life expectancy in Australia this year reached 83.2 years while in Indonesia it was 76.5 years, 6.7 years apart. In fact, it is projected that in 2050, life expectancy in Australia will reach 87.1 years while in Indonesia it will be 80.8 years. In this case, population aging has influenced differences in work behavior. For example, age differences will affect a worker's memory both in the short and long term. It has been found that young workers are proven to have higher affective commitment than other generations, young workers also have high expectations for rapid advancement, higher salaries and training than other generations (Moore, Grunberg, & Krause, 2015)

### Analysis of the Impact of Demographics on Startups and Unicorns

Various studies have shown how business ecosystem models like Isenberg's have influenced the growth of startups and unicorns. However, it has never been discussed before regarding the demographic aspects of the country which have been proven to influence business growth in this sector. Previously, Guelich & Bosma (2019) found that startup business activity by young entrepreneurs in Indonesia was higher than in Australia. With details, the percentage of business activities carried out by groups aged 18-34 years in Indonesia reached 18.9%, while in Australia it was 13.5%. Lower figures can also be seen in the percentage of business activities carried out by groups aged 34-64 years, namely 16.6% in Indonesia and 12.5% in Australia. Indonesia does have a larger population than Australia. However, population size cannot be the only measure of high business activity in Indonesia. In fact, Indonesia's percentage is also the highest compared to other countries such as the Philippines, India, Malaysia, Korea, China, Thailand and Vietnam. In fact, in terms of population, China and India are more numerous than Indonesia.

The author then connects this fact with the demographic aspects of Indonesia and Australia. Indonesia has good demographic prospects and on the other hand, Australia is experiencing a population aging phenomenon which could be an inhibiting factor in the future. In fact, demographic aspects also influence the character of the population in it. Younger populations are more likely to start new businesses and/or become consumers of startups and unicorns, compared to older populations. In the previous sub-chapter it was shown that the young population in Indonesia is projected to continue to increase considering that currently, the unproductive population exceeds the unproductive population. This is what then benefits the growth of this sector. It was also stated that in a survey conducted by Global Web Index (2019a) it was found that the Indonesian population was in first place in the world in terms of using e-commerce during January 2019. Apart from that, in the same month, Indonesia was also in fourth place in terms of media use. social, where Australia itself occupies 35th position. This is an aspect that has never been discussed before. In the Isenberg business ecosystem, market domains are associated with network factors such as entrepreneurial networks, diasporas and multinational corporations. These domains are also associated with factors such as first reviews, customer references, manufacturing expertise, and other factors



related to early customers. However, Isenberg did not include a single demographic factor in his business ecosystem model. In fact, in reality demographic aspects have been proven to influence the business ecosystem, which is then related to increased business activity and also the tendency to start a business in a country. However, on the other hand, demographic factors related to market potential have more influence on startups that from their inception have focused more on growing in the domestic market before entering the global market, compared to startups that have focused on entering the global market since the beginning of their growth.

### **Indonesia's Technology Infrastructure and the Government's Role in Its Development**

Internet penetration in Indonesia has experienced a sharp increase from 2013 to 2019. Development of internet connectivity infrastructure and low smartphone prices have also had an impact on increasing internet penetration. In this case, Indonesia has the 3rd highest creative industry contribution relative to overall GDP, behind the US with a contribution of 11.1% and South Korea with a contribution of 8.67% (MDI, n.d.).

Indonesia experienced a high increase in terms of Cellular Connectivity, namely ranking 12th in the Asia and Pacific region, where Australia was ranked first in the entire region. However, on the other hand, Indonesia's improvement over the last five years is far behind when compared with Australia. Although Australia outperforms its scores and rankings, Indonesia has benefited more from the sharp increase over the past five years. In fact, in this report, Indonesia was used as one of the two spotlights in it along with Bangladesh. This is because Indonesia is one of the ten most advanced countries in increasing the Cellular Connectivity Index since 2014.

Indonesia's score increased by 15.3 in five years, from 46 in 2014 to 61 in 2019. This score is assessed in terms of infrastructure, affordability, consumer readiness, and also content and services in each country. The findings are that the Palapa Ring Project and cooperation from internet service providers have had an impact on increasing coverage of 3G networks from around 60% in 2014 to more than 90% in 2018. In addition, the affordability of purchasing internet data has also experienced major changes in this country. . The cost of 1 GB of monthly data fell from 1.1% of monthly GDP per capita in 2016 to almost 0.5% in 2018 thanks to operators who have offered lower-cost internet plans and with higher amounts of data. The cost of internet-enabled devices also decreased from 50% of monthly income in 2016 to 13% of monthly income in 2018.

In terms of consumer readiness, the level of involvement in colleges or universities in Indonesia also increased from 30% in 2014 to 36% in 2018. An increase also occurred in mobile phone ownership, where two-thirds of the population owned a mobile phone in 2018 and more than half the adult population owns a cell phone. This means that more than 25 million people in Indonesia start using cellphones for the internet every year. Then finally, in terms of content and services, in Indonesia itself there has been a significant increase of 200% since 2014. In fact, there were more than 200,000 mobile applications using local languages in 2018, which indicates the development of local content in this region (GSMA Intelligence , 2019). With the various improvements that have occurred, Eka (2019) projects that Indonesia can increase its economic growth to reach USD 150 billion in 2025 by optimizing the digital industry (Eka, 2019).

The improvements that have occurred in Indonesia are due to support from the government. As mentioned, the Palapa Ring Project is one of the efforts made by the Indonesian government to increase competitiveness in the digital industry. This development is none other than an effort to use technology to improve the country's economy. Reported on the official website of the Ministry of Information and Communication (2013) Palapa Ring is an infrastructure development project in the form of building 36,000 kilometers of fiber optics throughout Indonesia. This fiber optic network is considered to be able to reach 440 districts or cities and can integrate existing networks with new networks. From integrated infrastructure development, the Indonesian government hopes to increase National Resilience and State Sovereignty. Apart from that, the aim is to improve the quality of the internet and communications which then has an impact on accelerated growth and equal distribution of social and economic development (Kominfo, 2013).

This project was inaugurated on October 14 2019 by President Joko Widodo (Kemasetneg, 2019). The inauguration of the Palapa Ring was actually also accelerated by the previous policy contained in the 14th Economic Policy Packages which demanded accelerated completion of this project. The 14th Economic Policy Packages have objectives that are in line with the objectives of developing the Palapa Ring project, namely providing high-speed broadband networks throughout Indonesia. Apart from that, GSMA Intelligence (2019) indicates one policy that has a big influence on mobile internet connectivity in Indonesia. The policy is the release of the 700 MHz spectrum band, which will support operators or internet service providers to expand coverage and handle significant traffic growth over the next 10 years. It is estimated that assigning this spectrum to mobile broadband will provide economic benefits of \$11 billion to the Indonesian economy over the 2020-2030 period,



which is equivalent to a 1% increase in GDP. The 700 MHz frequency band was mentioned by the Minister of KOMINFO, Rusdiantara, as being able to create equal opportunities in accessing high-speed connectivity in remote areas to then increase community participation in efforts to achieve prosperity and economic growth (Kominfo, 2018b).

### **Australia's Technology Infrastructure and the Government's Role in Its Development**

As mentioned in table 4, Australia has a score of 88.3 in the Cellular Connectivity Index Score, which is the highest score of 150 countries throughout the region. The score indicates Australia has the best, safest and most affordable high-speed broadband and mobile communications networks. Infrastructure, affordability, consumer readiness, as well as content and services in Australia are also considered the most capable. In this case, one of the supports for Australia's internet infrastructure carried out by the government is through the National Broadband Network (NBN) project, work on which began in 2009 and is expected to be completed in 2020. By mid-2018, more than 60 percent of all Australian buildings could access NBN services. . In addition, the NBN is considered successful in increasing around USD 1.2 billion in additional economic activity, creating 5,400 new businesses and 9,700 new jobs. It is even estimated that by 2021 this project will add USD 10.4 billion to annual GDP, creating a total of 80,000 new businesses and 148,000 new digital jobs.

The Australian government has also undertaken other programs to support the use of technology for its economic interests. One of them is through the Mobile Black Spot Program where the government has invested US\$ 380 million in improving telecommunications infrastructure. This program seeks to increase cell phone coverage in all regions of the country. That way, the government can provide internet coverage evenly, sustainably and competitively (Department of Infrastructure, Transport, Regional Development and Communication Australia, 2019). These conditions will provide a good ecosystem to promote investment and competition in remote areas.

Furthermore, the authors found a relationship between demographic factors, in terms of population aging in Australia, and internet penetration in this country. Data from the Australian Department of Industry, Innovation and Science (2018a), shows that the non-productive population or over 65 years old is the least digitally active Australian age group. This condition has given rise to a wider digital gap between this age group and younger age groups since 2015. This condition has resulted in reduced internet activity as a result of a lack of time to research and try new technology. Ultimately this will have an impact on decreasing the adoption of digital services in this country. In response to these conditions, the Australian government has established the Be Connected Program which aims to empower all Australians to develop in the digital world, especially those in the non-productive age group. This program focuses on increasing skills, digital confidence and cyber security in this age group.

### **Analysis of the Impact of Technology Infrastructure Development on Startups and Unicorns**

The development of technological infrastructure plays a role in providing new ways to assess risk and handle financial information, which then makes it easier for non-professional investors to provide financing for startups. Furthermore, technology can speed up the rate of financial information which can then influence the startup's future financing path and ultimately influence the success of the startup itself. On the other hand, startups with higher technology utilization will be more likely to increase revenue through the creation of new product and service innovations.

Improved technological infrastructure enables economic progress by accelerating the scale-up of startup companies and increasing their competitiveness. These conditions can encourage the birth of a more competitive and innovative market (GSMA Intelligence, 2019). Through improvements in infrastructure, circulation and dissemination of information will also occur more quickly. This will then improve the business ecosystem in the region, considering that the ecosystem also has the character of being 'rich in information' (Mason & Brown, 2014: 10). In such an environment, individuals can access business and technology information and knowledge, and can also identify business gaps to be able to fulfill them. A new product or service will also be easier to introduce to consumers through the rapid dissemination of information.

In this case, from the various improvements that have occurred, Indonesia can gain various benefits, including in its economy. Considering that more and more people have internet devices and the internet is becoming more relevant in this case, more people will be willing and able to use the internet. The increase in the internet population in Indonesia can provide benefits to technology-based startups and then attract the attention of investors. On the other hand, as the country ranked first in the Internet Connectivity Index, Australia also benefits greatly from the use of technology.



The construction of the Palapa Ring and NBN projects can be understood as an effort by the governments of both countries to improve the economy and national security through improving technological infrastructure. This is in accordance with the neo-techno nationalism paradigm coined by Shim and Shin (2016). In the era of globalization, countries that can utilize technology will gain significant economic benefits in the long term. On the other hand, countries that are slow to utilize it will risk falling further behind in a short time. The author sees that the governments of both countries have made efforts to utilize technology well. A competitive and innovative market, accompanied by improvements in technology, is one of the strengths in this sector. This factor then makes Indonesia and Australia both occupy the top ten countries with the highest number of startups. Then the author found that demographic factors also influence this sector. The demographic characteristics of both countries influence the adoption of new technology and its use. The Indonesian government has sought to improve infrastructure to take advantage of the demographic opportunities it has, and the Australian government has sought to equalize the adoption of technology, including among populations that are no longer productive.

Furthermore, in Neo-techno nationalism thinking, the country does not close itself off from adopting foreign technology and innovation. Through this thinking, national governments implement technological strategies and economic policies that can attract high-tech multinational companies to help domestic companies learn and adopt technology from these companies. This strategy has been implemented by both countries. The Australian government through Australia 2030 Prosperity Through Innovation in the industrial sector has sought to strengthen investment in talent and innovation by increasing access to the global talent pool. On the other hand, the Indonesian government through The 14th Policy Packages carried out a working visit program carried out by President Joko Widodo himself to the headquarters of the business accelerator company, Plug & Play in Silicon Valley, California, United States in early 2020. This visit was carried out to sign an agreement training program in Indonesia

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