

# Emerging Jobs: Indonesia

The fastest growing jobs in the country



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# Introduction

The scale of Asia's growth is monumental. Its rapid economic development will see the region soon home to two-thirds of the global middle class by 2030. With the fourth largest population in the world, Indonesia's own middle class is expected to double from 74 million in 2017 to 141 million by 2020.<sup>1</sup>

The scale of Indonesia's young and increasingly affluent population is rapidly driving changes in consumption habits and behaviour. Despite 50 per cent of its large population still being offline, Indonesia already has the largest and fastest growing online economy in Southeast Asia.<sup>2</sup>

Moreover, Indonesia is expected to enter a demographic bonus phase in 2020, where the population productive age (i.e. 15-64 years old) is greater than the non-productive age population. The nation is gearing to utilise its demographic bonus as an opportunity to build its digital economy.<sup>3</sup>

The potential of this digital archipelago has organisations rushing to get in on the increasingly tech savvy consumers of Indonesia. Micro, small and medium-sized enterprises are being encouraged to get online and go digital.<sup>4</sup>

The top five emerging jobs:

- 1 Back End Developer
- 2 Data Scientist
- 3 Android Developer
- 4 Full Stack Engineer
- 5 Front End Developer

# Introduction cont.

Indonesia has a bubbling start-up scene. Of Southeast Asia's 10 start-ups valued more than USD1 billion (better known as unicorns), Indonesia boasts four – GoJek, Tokopedia, Traveloka and Bukalapak.<sup>5</sup>

As new technology emerges to meet the demands of consumers, the jobs and skills needed to harness it also evolve and transform. The demand for tech talent is strong across industries. LinkedIn's top emerging jobs for Indonesia are all tech centred, and reflect Indonesia's rapid digital transformation.

Skills and job titles that sound technical, such as MySQL, Python or Android Developer, will become increasingly commonplace as digitalisation continues.

Digital workplaces also create demand for multifaceted talent who are able to solve problems creatively, understand business demands and communicate effectively. Hard skills are a must have, but soft skills will see talent go from capable to exceptional.

For Human Resource (HR) and Talent Acquisition (TA) professionals, this poses significant challenges. How do you hire for jobs that did not exist five years ago? How can you predict where the gaps in your workforce will be? How do you upskill and reskill your existing workforce to rise to the challenge?

Understanding the macro trends and how they shape the world is key to understanding what your own workplace may soon be looking for.

The emphasis should be on looking for employees with transferable skills which enable them to adapt to changing workforce demands. Career paths should be looked at in terms of skills the worker gained and how they developed, instead of just noting a checklist of job titles. HR and TA teams would benefit from looking for aptitudes such as adaptability, resilience, and entrepreneurial skills.



# How to use this report

This report has crunched LinkedIn's unique data from the last five years to identify the top up-and-coming roles and the skills needed.

Intuition and experience are vital, but with a market this complex and fast-moving, you need to keep your eyes on the latest data. Knowing the trends shaping your world is key to understanding what your own workplace may soon be looking for.

We hope this report will serve as a helpful resource that HR and TA teams can use to:

- **Educate** hiring managers and business leaders about the challenges and opportunities that exist in Indonesia's job market
- **Reference** in executive discussions to give a bird's eye view of the hiring marketplace
- **Understand** what skills to look for instead of job titles
- **Glean** insights into the nature of emerging roles

Show your hiring managers this report and use it in discussions to demonstrate your knowledge of the trends in Indonesia's job market.

Talk to your local LinkedIn relationship manager about how they can be your partner in helping you meet your hiring goals.



## How LinkedIn data revealed what's emerging

We looked at all LinkedIn members in Indonesia who included work experience on their profiles. We then grouped together the millions of unique, user-input job titles based on common job roles.

This involved clustering job titles together. For example, our category of 'machine learning engineer' includes user input titles such as 'machine learning software engineer' and 'machine learning engineer II.' We then counted the frequencies of job titles that were held in 2013 and compared the results to job titles that were held in 2017. Our 'emerging jobs' are the top five job titles that saw the largest growth in frequency over the five-year period.

# Key Takeaways



# 1 The connected middle class is fuelling the digital economy

The rise of Asia's middle class and its demand for goods and services is a key driver of the region's growth.

Meanwhile their entrepreneurial ability helps drive innovation and create new products.<sup>6</sup>

The middle class is defined by households that have disposable income and can afford small luxury items, such as smartphones, cars and other consumer durables. It drives a shift in the economy as it begins servicing its own population and brings a rise in more local businesses.<sup>7</sup>

Their sheer size will drive huge shifts in consumption, that will increasingly be done through digital means. With 350 million Internet users, Southeast Asia's Internet economy, which includes online travel, online media, ride hailing and e-commerce, is booming.<sup>8</sup>

As the most populous country in the region, Indonesia's growing middle class is going to become a powerful consumer force.

One in every five Indonesians belongs to the middle class. Their consumption accounts for nearly half the country's household spending.<sup>9</sup>

With 72 per cent of Indonesians using their smartphones to get online – it's clear the emerging middle class will be tech savvy consumers.<sup>10</sup>

As organisations rush to meet the growing demands of Indonesia's mobile and digital middle class, demand for tech skills will boom.

Indonesia has a demographic advantage when it comes to meeting the growing demand for tech talent. The median age is just 28 years and more than half the population is under 30, meaning they're digital natives.<sup>11</sup> Millennials understand the importance of ongoing skill development, particularly in learning technical, interpersonal and IT Skills.<sup>12</sup>



## 2 The emergence of unicorns is fuelling demands for digital talent

“ Since the evolution of Industry 4.0, digital technology has been growing rapidly. It has created a demand for new jobs, but finding talent can be a challenge. As an unicorn, we embrace this challenge by focusing on building a strong employer brand to remain competitive. Internally, we have a loyalty program which is dedicated to engaging and training talent. We regularly review and update this program to ensure that we are meeting the needs of our talents.

When it comes to hiring, our process strives to strike a balance between quantity and quality. We focus on the business needs of the company and try to recruit qualified talent that can help us grow faster. We also look beyond hard skills – communication and creativity are vital at Bukalapak. We seize opportunities by thinking creatively to find solutions for today's pressing problems.”



**Gema Buana Putra**

Vice President of Talent  
Bukalapak

Indonesia's Internet economy is expected to grow from USD 27 billion in 2018 to be worth USD 100 billion in 2025, making up nearly half of the region's Internet economy.<sup>13</sup>

The size of Indonesia's digital population means its e-commerce, online travel market, online media market and ride hailing services markets are all the region's largest and fastest growing.<sup>14</sup>

For digital organisations, the battleground isn't just about getting a foothold in this lucrative market, it's about finding digital talent locally that can support the growth. The Internet economy requires highly-skilled professionals in areas like software engineering, data science and product marketing.

And Indonesia's talent pool is growing. Google estimates there are over 100,000 skilled professionals in the Internet economy in 2018, and that talent pool is growing by 10 per cent annually.<sup>15</sup>

Moreover, Indonesia's government has recognised that bringing its Micro, Small & Medium Enterprises (MSMEs) to the online marketplace is key to reach USD 130 billion of e-commerce sales in 2019.<sup>16</sup>



## 2 The emergence of unicorns is fuelling demands cont.

The success and rapid growth of start-ups valued more than USD 1 billion, also known as unicorns, is further fuelling demand for digital talent. Of Southeast Asia's top 10 unicorns, Indonesia boasts four – GoJek, Tokopedia, Traveloka and Bukalapak.

These unicorns are pushing for expansion across the region. Traveloka, which caters to the booming online travel market, is expanding into Vietnam and Thailand.<sup>17</sup> Meanwhile GoJek, the ride hailing app, is moving into Singapore, Thailand, Vietnam and the Philippines.<sup>18</sup>

To help foster talent, Indonesia Telkom has launched the “Indigo Creative Nation”, which supports start-up development, with a focus on nurturing creativity, talent scouting, incubation, acceleration and commerce.<sup>19</sup>

Indonesia's digital goldrush is reflected in LinkedIn's own emerging jobs report. All five emerging jobs are in tech and can work across platforms and sectors.

For example, Indonesia has distinct demands for Android skills. With 88.4 per cent of smartphones operating on Android platforms in Indonesia,<sup>20</sup> digital talent needs to deliver solutions for the system. LinkedIn's report reflects that demand – with Android Developer being a rapidly emerging job in Indonesia.



# 3 Industry 4.0: Traditional industries are turning to tech talent

“ At Great Giant Foods, we use Artificial Intelligence (AI) to count pineapple & banana plants and conduct facial recognition for attendance taking of plantations workers. We also adopted Internet of Things (IoT) to monitor the weather and track unlabelled pallets real-time. When we adopt new technologies, we are not only implementing the technology, but also preparing the process and people capability.

For example – three years ago, Great Giant Foods adopted drone technology to monitor and manage our plantations. As the plantation managers were not familiar with the new system, a series of training and learning program were conducted for them.

As technology progresses, we hope to see employees apply creativity and adaptability to face these changes.”



**Jane Fransisca**

Head of Corporate Services  
Great Giant Foods

## Making Indonesia 4.0 is driving the demand for digital talent as traditional industries embark on digitalisation.

The government roadmap to digitalisation in Indonesia's manufacturing and industrial sectors will see the adoption of Artificial Intelligence (AI), sensor technology, human-machine interface, 3D printing and the Internet of Things (IoT). This will drive a shift in the demand for skills in the market – from industrial skills to tech skills. It will also fuel demand for digital talent, with some estimates that demand for labour will increase 98 per cent.<sup>21</sup>

For example, a fifth of local government agencies in Indonesia will use IoT in infrastructure like roads, street lights, and traffic signals to gain insights by 2019.<sup>22</sup>

Another sector that will look to benefit from Making Indonesia 4.0 is the ready-made garment industry. As it adopts digital innovations, the industry is expected to grow from 18 per cent of Indonesia's GDP in 2016 to 26 per cent by 2030.<sup>23</sup>

Data Scientists can help industries benefit from AI, by incorporating insights from data into business ideas. Indonesia's Data Scientists are reporting Machine Learning in their top skills as they respond to demand for AI skills.

It won't just be talent that can digest the data and insights that a digital world brings. The building of infrastructure for digitalisation also requires talent.

Back End Developers, one of Indonesia's fastest emerging jobs, are key to unleash the potential of digitalisation. As traditional companies embark on digitalisation, Back End Developers are able to build the core components of the infrastructure that is used to store data, deliver a webpage, or support an app.

# 4 Building digital talent in Indonesia – a joint effort between private and public

Between 2015 and 2030, it's estimated that there will be a shortage of 9 million skilled and semi-skilled ICT workers in Indonesia.

Another challenge is that some ICT graduates aren't leaving training with the skills the industry needs.<sup>24</sup>

A shortage of talent is a clear headwind for Indonesia's digital transformation.<sup>25</sup> There is an emerging concerted effort to rapidly bring Indonesia's skill in line with its ambitious Indonesia 4.0.

The Ministry of Communications and Informatics and five state universities in Indonesia have launched the "Digital Talent Scholarship", which will be intensive courses to rapidly bring talent into the market. Importantly, these courses have had input from global tech companies to ensure the technicians who graduate have the skills relevant to the industries.<sup>26</sup>

The government has also committed to USD 9 million to fund 20 colleges in a bid to deliver 20,000 digitally-skilled workers into the Indonesian talent market.<sup>27</sup>

Other organisations are also trying to amp up the talent market in Indonesia. Google is partnering institutions to train 100,000 android developers by 2020.<sup>28</sup> In the Southeast Asian region, Microsoft has made 15,000 internship positions

available to university students. It is also working on digital skills training for 2.2 million SME employees by 2020<sup>29</sup> and certifying digital scholarships for the Indonesian government.

In a competitive hiring market, knowing where the existing talent is based can be instructive. In Indonesia, supply of the top five emerging roles is, in fact, found most in West Java Province followed by Greater Jakarta Area.

## Supply of top 5 emerging roles in Indonesia



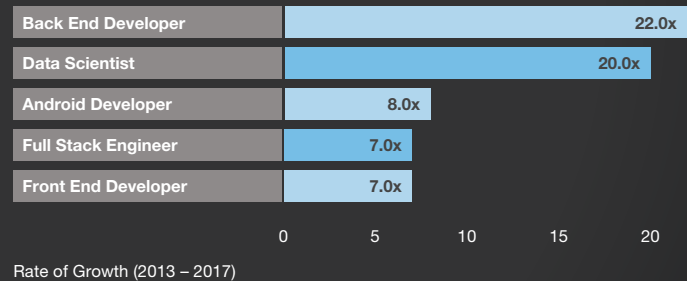
# Deep dive: The top 5 emerging jobs

LinkedIn has crunched its enormous stack of data from the past five years to identify the top emerging jobs in Indonesia.

Our data shows us the career paths that most people have taken into these roles, as well as the skills most commonly associated with the jobs.

Identifying these leading emerging jobs offers HR and TA teams a unique insight into where the jobs market is heading.

GROWTH RATE OF EMERGING JOBS IN INDONESIA



# 1 Back End Developer

Back End Developers are responsible for building the backend of web applications and critical system functions like database.

Digital transformation requires huge amounts of digital infrastructure. As Indonesia ramps up its role in the Internet economy, organisations need talent that can build and develop their backend tech capabilities. Online shops, start-ups and other digitalisation projects all require such infrastructure, and talent who can build and navigate it.

For example, ride-sharing unicorn GoJek announced its plans to hire 200 new developers, including Back End Developers, in Bengaluru to cater to its growing portfolio of products.<sup>30</sup>

## TOP PREVIOUS JOBS FOR BACK END DEVELOPERS

Software  
Engineer

Web  
Developer

Web  
Programmer

Back End  
Developer

Java  
Software  
Engineer

## TOP SKILLS FOR BACK END DEVELOPERS

PHP

MySQL

JavaScript

HTML

Java

“Tech start-ups, as well as traditional companies that are undergoing digital transformation, require strong digital backbones to power their business operations. Developers are responsible for building these core operations in organisations. They are key to the successful transformation of traditional companies and the growth of start-ups to scale-ups.

When Bizzy.co.id is looking for developers, we want the latest coding and engineering skills, but above all we value strong fundamentals such as computational thinking and cognitive skills. Being able to see patterns, break down problems and solve them are what makes the best developers.”



**Norman Sasono**

Co-Founder and Chief Technology Officer  
Bizzy Indonesia

# 2 Data Scientist

E-commerce is fueling the demand for Data Scientists to collect customer data, analyse these insights and make recommendations on what customers are looking for.

As of 2017, there are about 30 million online shoppers in Indonesia, where the online commerce market is projected to grow up to eightfold by 2022.<sup>31</sup> E-commerce isn't just providing convenience for customers. Retailers now collect the data of their customers to better understand behavioral intent of site visitors and lift sales using customer data.

This may be as simple as seeing which advertising is delivering website traffic to using exit surveys to understand the last barrier to securing sales.<sup>32</sup>

Many Data Scientists in Indonesia are coming from academia. There is a clear demand for their skills, which are busting out of research and into practical application. The promise of interesting work and projects might help lure this talent from academia.

## TOP PREVIOUS JOBS FOR DATA SCIENTISTS

Lecturer

Teaching  
Assistant

Data  
Analyst

Research  
Assistant

Software  
Engineer

## TOP SKILLS FOR DATA SCIENTISTS

Python

Data  
Analysis

R

Machine  
Learning

SQL



# 3 Android Developer

The dominance of Android users in Indonesia creates demand for tech talent that can deliver digital solutions into consumers' pockets.

Android is the preferred operating system for smartphones in Indonesia.

In 2014, the Google-backed system had 60 per cent of the Indonesian market. In 2017, its market share grew to 88 per cent.<sup>33</sup>

Apps, mobile websites and other services need to have Android capabilities to reach the majority of the market.

Any organisation that wants to reach their consumers through mobile will need such Android-trained talent. Google plans to train 100,000 Android developers in Indonesia so that it can cater to the huge market.<sup>34</sup>

## TOP PREVIOUS JOBS FOR ANDROID DEVELOPERS

Android  
Developer

Software  
Engineer

Mobile  
Engineer

Web  
Developer

Mobile  
Application  
Developer

## TOP SKILLS FOR ANDROID DEVELOPERS

Java

Android  
Development

MySQL

PHP

HTML



# 4 Full Stack Engineer



Indonesia's digitalisation efforts requires efficient, flexible and responsive tech talent like Full Stack Engineers.

A combination of Front and Back End web and application development, Full Stack Engineers are the Swiss Army knives of tech talent – able to run a digitalisation project from start to finish, on both a technical level, as well as from a project management perspective. They have intimate, technical knowledge of all layers of digitalisation – from the server hosting side of the website to the user experience and understanding what the customer and organisation needs.

With one of the highest start-up densities in the region, one start-up per 86,836, Indonesia's start-ups are reliant on Full Stack Engineers to not only write excellent code, but to expand their product offerings to customers.

## TOP PREVIOUS JOBS FOR FULL STACK ENGINEERS

Software  
Engineer

Web  
Developer

Full Stack  
Engineer

Web  
Programmer

Java  
Software  
Engineer

## TOP SKILLS FOR FULL STACK ENGINEERS

JavaScript

PHP

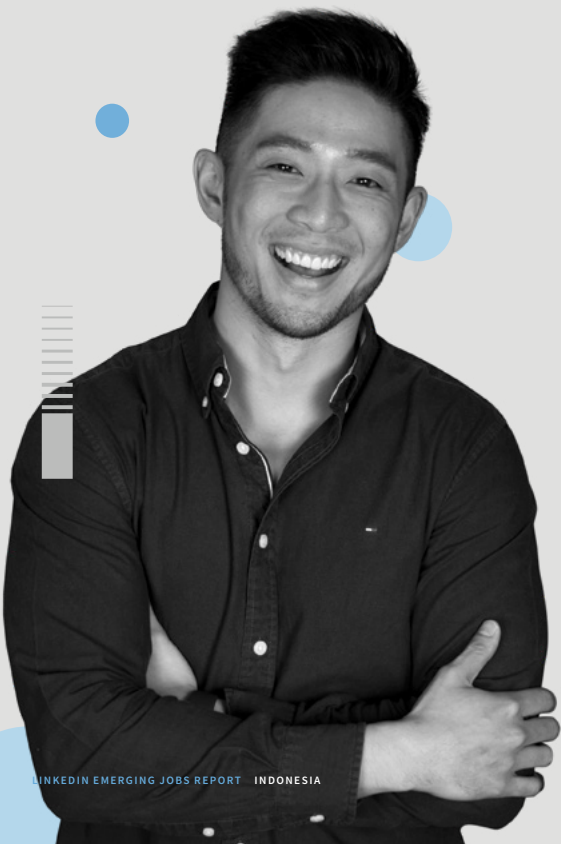
MySQL

Cascading  
Style Sheets  
(CSS)

HTML



# 5 Front End Developer



Front End Developer takes an active and crucial role in the development of new features and enhancements to applications and web properties used by consumers and businesses every day.

They are sought after by organisations that want their digital offerings and services to stand out in the competitive online commerce world. They understand what consumers are looking for when they want to buy a pair of shoes online or want to book a flight for a holiday.

The dominance of Indonesia in the region's Internet economy means that websites, applications and marketplaces – the digital shop fronts of businesses, are vital in delivering consumers what they need at the click of the mouse. Some businesses like Lazada Indonesia, Tokopedia and Bukalapak have become so successful that they have millions of site visitors every month.<sup>35</sup>

## TOP PREVIOUS JOBS FOR FRONT END DEVELOPERS

Web  
Designer

Web  
Developer

Front End  
Developer

Software  
Engineer

Web  
Programmer

## TOP SKILLS FOR FRONT END DEVELOPERS

Cascading  
Style Sheets  
(CSS)

JavaScript

HTML

PHP

Web  
Development

# What's Next?



# Final thoughts for HR and TA teams

1

## Hire for skills, not just job titles

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Look beyond the job titles and focus on the skills needed for the role.

Hiring for the future state of the business means hiring for potential – potential to learn, grow and adapt in a world of digital transformation.

The digital workplace creates demand for the multidisciplinary worker, who can wield their hard skills to develop the product or find the insights, but also communicate and manage projects.

It's about soft and hard skills: Foundational or adjacent hard skills are table stakes, but no matter how technical the role, it's the soft skills that will show you who's good versus great.

2

## Review your hiring strategy and invest in your employer brand

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The market is highly competitive, and TA teams must continually review their hiring strategy.

More than 90 per cent of tech-savvy talent are job hunting online.<sup>36</sup> Traditional recruitment is no longer enough. Social recruiting is essential to get the talent in the door.

Organisations must offer something different to discerning talent – understand what candidates value most in a job and give an authentic view into your culture.

When LinkedIn surveyed digitally skilled professionals\* in Indonesia on what they valued in employers, it found that three quarters agreed that excellent compensation and benefits was most important, followed by good work-life balance (70 per cent). More intangible propositions such as colleagues and culture (42 per cent), open and effective management (38 per cent), and challenging work (37 per cent) demonstrate the value of cultivating and promoting an employer brand to attract talent.

\*Digitally skilled professionals are defined as professionals who possess one or more Software Development, Information Technology or Information Science related skills.

# Final thoughts cont.

3

## Leverage on the power of data and insights

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Use data to make well-informed decisions that can anticipate what talent might be needed, rather than rushing to catch up.

Insights on the fastest-growing jobs and skills will help TA teams understand talent availability in the market, make decisions on expanding their search and look beyond the obvious environments.

4

## Invest in upskilling your employees

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When talent is thin on the ground, the 'perfect candidate' will be highly discerning and very expensive.

In times of rapid change, the company that will succeed is the one that makes its workplace conducive to continuous learning. Organisations will benefit from investing in further training, either in-house or external. An organisation's next Data Scientist may already be working for the firm as a Data Analyst. The Full Stack Engineer the team needs may be found in the Software Engineer who already understands the demands of the business and only needs to brush up on Cascading Style Sheets (CSS).

An existing employee, with the soft skills to engage with clients and understand their needs, may be more suited to the role if they are taught the technical skills they need. Investing in employees is a vital part of an employer's brand, and helps with retention.

HR and TA teams already know the talent market is tight, so creativity will be the key.

# Why LinkedIn?

As the largest professional network in the world with more than 610 million members, LinkedIn is the best platform to reach and engage the right talent you need.

Connect with more than 12 million professionals in Indonesia and build a data-driven recruiting strategy.

## Transform the way you hire in Indonesia



### Post jobs

Target the right candidate for any job



### Build a strong talent pipeline

Reach active and passive talent



### Build your employer brand

Target the right candidate for any job



### Contact candidates proactively using InMail

On average, InMail response rates are 3x higher than emails



### Connect with more than 12M professionals in Indonesia

From entry level to managers to directors, you will find them all on LinkedIn





610M MEMBERS



50K SKILLS



30M COMPANIES



20M OPEN JOBS



90K EDUCATIONAL  
INSTITUTIONS

## About LinkedIn's Economic Graph

The Economic Graph is a digital representation of the global economy based on 610 million members, 50 thousand skills, 30 million companies, 20 million open jobs, and 90 thousand schools. In short: it's all the data on LinkedIn.

Through mapping every member, company, job, and school, we're able to spot trends like talent migration, hiring rates, and in-demand skills by region. These insights help us connect people to economic opportunity in new ways. And by partnering with governments and organizations around the world, we help them better connect people to opportunities.

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