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The digital archipelago: How online commerce is driving Indonesia's economic development

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Kaushik Das
Toshan Tamhane
Ben Vatterott
Phillia Wibowo
Simon Wintels

EXECUTIVE SUMMARY

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Indonesians have embraced digital technology with enthusiasm and are among the world's most avid users of social media such as Facebook, Instagram, Line, Twitter, and YouTube. At the same time, Indonesia has a growing digital ecosystem featuring online commerce, ride-sharing services, media distribution, and financial services. Indonesia has the most billion-dollar tech startups in Southeast Asia, including Bukalapak, Go-Jek, Tokopedia, and Traveloka. In addition to creating significant business opportunities, the rapid development of digital Indonesia is having a substantial impact on citizens—in the form of new jobs, improved access to services, and greater connectivity with the global society.

While many reports have examined the recent growth of digital technology in Indonesia, none has offered a comprehensive, end-to-end look at its impact on the real sector—the part of the economy that produces goods and services—and on the country as a whole. McKinsey has undertaken research to explore the impact of digital on one of its largest and fastest-growing pillars—online commerce (defined as consumers buying and selling physical goods online), an $8 billion-a-year business that affects local manufacturing directly.

In the first four chapters, we explore the dynamics of the digital economy through the lens of online commerce. Then, in chapter 5, we take a step back and reflect on the impact of our findings and spell out priority measures necessary to unlock Indonesia's broader digital economy.

In chapter 1, we estimate the size of Indonesia's online commerce market, a sector comprising about $5 billion of formal e-tailing and more than $3 billion of informal commerce. We estimate that Indonesia had about 30 million online shoppers in 2017 in a total population of about 260 million.

Chapter 2 examines the socioeconomic impact of online commerce in Indonesia, today and five years from now, through an evaluation of financial benefits, job creation, buyer benefits, and social equality. We forecast that online commerce sales will grow substantially, reaching up to $65 billion by 2022—30 percent of which will be consumption that otherwise would not have occurred. In addition to increasing revenue, we believe, online commerce can unlock broader social impact. We found that online commerce can facilitate women's participation in the economy—for example, 35 percent of online sales are generated by women. Also, online commerce has led to a savings of 11 to 25 percent for customers outside the main island of Java.

Chapter 3 explores five key success factors underpinning thriving online commerce ecosystems. Overall, we find that Indonesia has room for improvement in all areas: reliable logistics and infrastructure; seamless, secure, and scalable payment opportunities; a professional and digital commerce ecosystem comprising micro, small, and medium enterprises (MSMEs); a strong talent pool; and a healthy investment climate.

Chapter 4 focuses on ways to overcome the challenges facing Indonesia in online commerce. These include the priority actions required to resolve logistical bottlenecks, encouraging more cashless payments, and getting more MSMEs online.

In chapter 5, we examine how Indonesia can apply lessons learned from online commerce to its overall digital economy. Successful digitization of the Indonesian economy rests on the ability of the public and private sectors to fill the country's yawning talent gaps, bulk up midsize companies so that they can take better advantage of the global export opportunities offered by digital platforms, and encourage transparency in the digital arena, particularly through the creation of a digital impact index that could help measure the effectiveness of innovation and policies. Addressing these fundamental issues will enable Indonesia to truly harness the power of the digital economy.

CHAPTER 1: **THE STATE OF ONLINE COMMERCE**

We define online commerce as the online buying and selling of physical goods, a market in Indonesia comprising about $5 billion of formal e-tailing and more than $3 billion of informal commerce. We estimate that there were about 30 million online shoppers in 2017. Formal e-tailing means buying and selling physical goods through an online platform that facilitates transactions by displaying products and enabling payment and delivery. The more informal market—social commerce—involves the buying and selling of physical goods through a social

media platform. Goods may be listed for sale on the platform, but payment and delivery are handled elsewhere.

We identified five trends that help explain the rapid growth of online commerce in Indonesia: a "mobile-first" market; digitally savvy, young consumers; increasing MSME participation in online commerce; growing investment in online commerce; and supportive government policies.

Then we studied the evolution of e-tailing penetration in several other countries to better understand what direction Indonesia might take. Indonesia today appears to be most similar to China in 2010, with comparable e-tailing penetration, GDP per capita, internet penetration, retail spending, and urbanization.

The online commerce market is projected to grow up to eightfold from 2017 to 2022, from $8 billion of spending in 2017 to $55 to $65 billion by 2022, based on our projections, similar to the trajectory experienced in China between 2010 and 2015. Online commerce penetration would rise to 83 percent of the internet users in 2022, from 74 percent today, with roughly one quarter of these users completing purchases. In parallel, average individual spending would increase from $260 a year to $620 a year in 2022 as consumer trust in the ecosystem improves and more MSMEs come online, providing an ever-wider variety of products and affordable, reliable delivery options.

CHAPTER 2: **THE SOCIOECONOMIC IMPACT OF ONLINE COMMERCE**

Online commerce has already had a significant impact on Indonesian society. For example, it has empowered women and broadened financial inclusion. Its continued growth will have favorable implications for MSMEs, the broader banked population, and the country's exporting prospects.

Online commerce in Indonesia has socioeconomic impact in four areas: financial benefits, job creation, buyer benefits, and social equality. Every $1 shifted from offline retailing to online commerce generates about 30 cents of new consumption and saves consumers 10 cents. In addition, in the next five years, we expect six times the number of parcels shipped by online businesses, nine times the number of cashless payments, six times the online-related service jobs, twice as many online MSMEs, and twice as many online buyers as in the entire history of Indonesia.

Financial benefits

Indonesia is the largest online commerce market in Southeast Asia, generating roughly $2.5 billion in new consumption revenue today and a likely $20 billion by 2022. Looking at it from a different angle, 30 percent of online commerce is new consumption, or purchases that would not have occurred in the absence of online commerce, and are likely to increase as online commerce proliferates in regions with untapped consumer demand.

Today, 55 percent of online commerce spending in Indonesia comes from greater Jakarta, where the online retail market is more mature than in other regions. Online spending in Jakarta, as a percentage of household spending, is four times higher than in the rest of Java and ten times what it is outside of Java. Provinces outside of Jakarta have about a ten-percentage-point higher rate of new spending than Jakarta does. As online commerce reaches beyond greater Jakarta, offering better choices and prices, the rate of new consumption may grow beyond 30 percent.

Exports through online commerce are still low. However, rising exports of consumer goods (such as automotive, hobby, fashion, and health and beauty goods), coupled with significant numbers of overseas Google searches for such products, suggest that demand is increasing.

Job creation

Indonesia's online commerce sector has already had a major impact on the country's job market. We estimate that by 2022, online commerce will directly or indirectly support about 26 million jobs, compared with four million today. Direct support includes new jobs that would not have existed otherwise (for example, programmers at online commerce companies and positions at logistics companies). Indirect support includes positions that exist today but will be favorably influenced by online commerce revenue flows, such as MSME owners who shift from offline to online selling or payment providers that shift their services from physical stores to online sales.

Buyer benefits

Consumers are benefiting from savings in online commerce throughout the country, but there are interesting geographical variations. For example, consumers outside of Java who purchase goods online save 11 to 25 percent compared with traditional retail. In these locations, online commerce circumvents extremely high distributor inventory costs (low retail volumes spread over large geographies), but there is also substantial variability because of uneven development of local distributor networks and differing costs of parcel shipments (for example, to remote areas).

In the Java region, where savings range from 4 to 14 percent, distribution networks are already highly developed, so savings are lower than in other parts of the country. Still, savings are substantial in dense urban areas because physical retailers face higher costs for land and labor and parcel shipping costs are low because logistics hubs are nearby.

Social equality

One of the most important—and perhaps least known—benefits of online commerce in Indonesia is its impact on social issues, including gender parity, financial inclusion, and economic growth outside of Java.

Our research found that online commerce supports women empowerment in many ways, allowing women more equal access to the economy. Subsequently, the share of women-generated revenue in online commerce stands at more than twice that in traditional commerce.

We found that online commerce in rural areas, while starting from a small base, has grown substantially both in sales and spending. Rural consumers' buying habits are similar to those of their urban counterparts, though they spend relatively more on categories like phones and tablets. Regions with higher household expenditure and internet penetration also demonstrate higher online spending per capita. The largest four metropolitan areas in the country—the greater regions of Jakarta, Bandung, Surabaya, and Semarang—account for approximately 70 percent of all online spending in the country despite only accounting for roughly 20 percent of the total population.

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Online spending is likely to increase in all provinces as the nation continues to develop. Internet penetration is projected to continue rising at 4.6 percentage points a year.[1] Household consumption, which grew at 5.2% per year in real terms from 2011 to 2017, is expected to continue growing.[2] As internet penetration and monthly incomes increase, so too will online spending and its attendant benefits.

CHAPTER 3: **KEY SUCCESS FACTORS AND CHALLENGES**

Our review of online commerce around the world identified five key success factors related to the expansion of a country's online commerce market.

1. Assuring reliable logistics and infrastructure. This success factor comprises quality of infrastructure, quality of logistics service providers, and ease of exporting. Indonesia's logistics infrastructure lags behind its regional peers, ranking 63rd of 160 globally in 2016, according to the World Bank.[3] In addition, Indonesia's online commerce efforts suffer from both a lack of sufficiently large logistics coverage networks and inconsistent service quality.

2. Offering seamless, secure, and scalable payment opportunities. Online payment adoption and security are prerequisites for a sound and growing online commerce market. Only 49 percent of Indonesians have access to financial services, well below regional benchmarks such as those of Malaysia (85 percent) and Thailand (82 percent). Further holding back online commerce is that 99 percent of transactions, by volume, in Indonesia are cash-based. As a result, Indonesia lags behind most Asian countries in payments revenue per capita; in 2015, Indonesia recorded $74 in payments revenue per capita, compared with $271 in Malaysia. Point-of-sale card acceptance remains low, as do credit card and debit card ownership and use. Cybersecurity is a serious concern and a disincentive for additional online commerce.

3. Building a professional and digital MSME commerce ecosystem. Access to the internet and participation in online commerce are clearly the keys to a strong ecosystem. More than 60 percent of Indonesian MSMEs are online, but only about 15 percent have online ordering and payment systems.[4] Indonesian MSMEs face various obstacles in the pursuit of online commerce, and only a few have succeeded in overcoming the barriers. Among the challenges are a lack of knowledge about online commerce (and a lack of time to learn about it), a limited pool of employees who are capable of engaging in online commerce, and the risk that competitors will copy an MSME's work.

1 Kaushik Das, Michael Gryseels, Priyanka Sudhir, and Khoon Tee Tan, *Unlocking Indonesia's digital opportunity*, October 2016 McKinsey.com.,

2 Calculated using the Households and NPISHs Final consumption expenditure (constant LCU), The World Bank, 2018, data.worldbank.org.

3 Numbers are aggregated from the Logistics Performance Index, World Bank, 2016, lpi.worldbank.org.

4 SMEs powering Indonesia's success, Deloitte, August 2015, 2.deloitte.com; and McKinsey analysis.

4. Encouraging a strong local talent pool. Indonesia faces great demand for technical talent but is far behind China and India in science, technology, engineering, and math (STEM) graduates and ranks low for math, reading, and science test scores. Indonesian tech company executives have expressed dissatisfaction with the quality of local talent.

5. Creating a healthy investment climate. One way to gauge the health of an online commerce market is to examine its funding and local investment. Indonesia has received about 38 percent of total Association of Southeast Asian Nations (ASEAN) venture capital funding over the past three years, exceeding its relative contribution to ASEAN's total GDP of 36 percent. E-tailing companies accounted for almost $3 billion of the funding.[5] But, for Indonesia, funding is not the primary challenge. More pressing issues include a relative lack of start-ups and the challenge of expanding those start-ups to qualify for at least Series A financing, a company's first sizable round of venture capital investment.

CHAPTER 4: **HOW TO ENCOURAGE ONLINE COMMERCE**

We identified several ways in which companies and government could support the expansion of online commerce. These ideas fall into three distinct themes.

1. Building a reliable logistics infrastructure. Indonesia may have difficulty achieving a vibrant, fast-growing online commerce sector without logistics improvements. By 2022, about 1.6 billion e-tailing parcels will be shipped per year—Indonesia is likely to ship more parcels in the next five years than in its entire history. To improve logistics, Indonesian companies could cater to urban centers, consider cross-border opportunities, enhance the efficiency of first-mile execution (pickups), invest in back-end efficiencies, and employ big data and digital technology to spur productivity. The government could help by stimulating investments in logistics and the surrounding infrastructure.

2. Spurring conversion to cashless payment. The growth in online commerce offers financial-services providers opportunities in two areas: noncash transactions, as consumers migrate to digital payment; and lending, especially to smaller enterprises. Indonesia will settle more noncash payments in the next five years than in its entire history. We estimate that in 2022, the number of online commerce transactions will be four times that of total credit card transactions in 2017.

3. Helping MSMEs to move online. Major participants in Indonesia's digital ecosystem, such as online marketplaces, could provide one-stop-shop merchant services to help MSMEs create an online presence, pursue online commerce, and use digital payments. Large players could also offer these entrants the tools they need to grow, such as marketing analytics, branding development, and digital storefront design.

CHAPTER 5: **MAKING DIGITAL INDONESIA A REALITY**

Developing online commerce is only one of the ways Indonesia can fulfill the promise of the digital economy. By 2025, digital technology could raise GDP by $150 billion, equivalent to an average 1.2 percentage points of additional growth each year over the next seven years. This

5 *E-Conomy SEA Spotlight 2017: Unprecidented growth for Southeast Asia's $50B internet economy*, Google and Temasek, 2017, thinkwithgoogle.com.

would fulfill nearly 60 percent of the increase required to reach the Indonesia government's 2025 target of 7 percent annual GDP growth.[6]

An expansion of the digital economy in Indonesia would have benefits beyond its impact on GDP, such as creating jobs and formalizing informal ones, opening an export market that the International Trade Centre estimates could be worth as much as $26 billion, and accelerating social development. Many influential Indonesian stakeholders are aware of the impact digitization could have on the economy and society and have pushed hard for its rapid adoption.

Our research found that Indonesia must address three fundamental challenges to develop its digital economy: extraordinary talent shortages in the digital arena, such as digital professionals, digital facilitators, and digital-savvy leaders; a shortfall of midsize to large companies that could capture domestic consumption or export opportunities if the digital economy were unleashed; and insufficient means of tracking the impact of digital on Indonesian society.

Dealing with these fundamental challenges will require collaboration between the public and private sectors. We offer three ideas designed to foster a better ecosystem for the digital Indonesia of the future:

- **Making Breakthroughs in the Talent Pipeline.** Develop a plan to rapidly fill the talent pipeline through several interventions, including attracting qualified workers from the Indonesian diaspora; improving the process of recruiting niche foreign professionals who could mentor local talent; retaining and employing more women in the workforce; and encouraging investment in reskilling workers, including wider use of vocational education.

- **Enhancing the Competitiveness of Midsize Companies.** Create a program to incubate 50 to 100 companies every year, providing them with resources such as business mentorship; information on how to gain access to new markets; help in obtaining financing; support related to infrastructure, such as aid in building warehouses and finding land for factories; and an introduction to management tools such as enterprise resource planning (ERP).

- **Measuring Digital Impact.** Establish a digital impact index with two sections. One section would report indicators reflecting what's happening in the consumer sector, MSMEs, and talent market. The other section would be a set of indexes that would focus on outcomes, including economic development, employment, and social development. Ideally, the main overall index would be published every year, along with its input values and calculation methodology, to serve as a compass for policy makers and to help other public and private stakeholders manage investment priorities.

Successful digitization of the Indonesian economy rests on the ability of the public and private sectors to lock arms to attract talent, incubate midsize companies, and encourage transparency. Addressing these three broad issues will accelerate Indonesia's progress in the digital economy in a more sustainable manner. ■

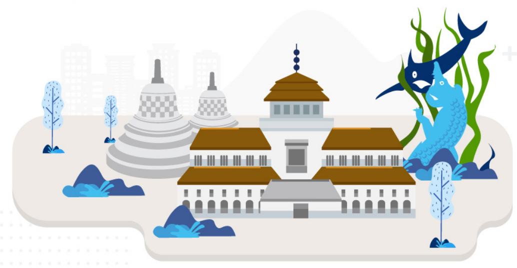
6 Kaushik Das, Michael Gryseels, Priyanka Sudhir, and Khoon Tee Tan, *Unlocking Indonesia's digital opportunity*, October 2016, McKinsey.com.

Indonesia's online commerce journey:
A growing market will unleash significant socioeconomic impact across the archipelago.

The online commerce market in Indonesia will grow eightfold over the next five years (2017–2022), which will have socioeconomic impact in four major areas:

Financial benefits

Impact of online commerce in 2017



Online sales growth in **24 out of 34 provinces** is outpacing online sales growth in Jakarta.

At least 30 percent of online commerce spending is **new consumption,** capturing previously untapped needs.

Impact of online commerce in 2022

More than **$20 billion** in new retail revenue

2–3 percent of GDP supported—equal to Bali's GDP in 2018

1.6 billion parcels shipped

Job creation

Impact of online commerce in 2022

26 million jobs supported, primarily at micro, small, and medium enterprises (MSMEs)

Buyer benefits

Impact of online commerce in 2017

Consumers in non-Java regions are saving **from 11 to 25 percent** by shopping via online commerce.

Social equality

Impact of online commerce in 2017

Up to 35 percent of online revenue is generated by women, compared with 15 percent in offline retail.

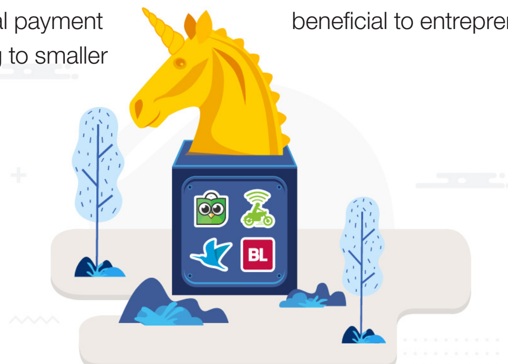
Impact of online commerce in 2022

65 million citizens consuming via online commerce, compared with 20 million in 2017

Government and companies can encourage online commerce in three ways.

Build a **reliable logistic infrastructure** to cater to the 1.6 billion parcels expected to ship per year.

Spur a conversion to **cashless payments,** allowing financial-services providers to help migrate consumers to digital payment and provide lending to smaller enterprises.



Help MSMEs go online by creating a **one-stop shop for merchant services** that will be beneficial to entrepreneurs.

About McKinsey & Company in Indonesia

McKinsey began serving clients in Indonesia in 1988. Our Indonesia office, established in Jakarta in 1995, was McKinsey's first office in Southeast Asia. Today, the office is supported by a large, diverse team representing a mix of nationalities, talent, and expertise. McKinsey Indonesia is home to one of our Digital Labs, where leading experts help clients build cutting-edge digital products, experiences, and capabilities.

We partner with businesses and governments to foster Indonesia's growth. Our clients operate in all major sectors—including financial services, basic materials, energy, mining, and telecommunications. We help our clients accelerate growth, transform and digitize operations, attain breakthrough organizational performance, and achieve excellence in a range of functional areas—from digital and marketing to supply chain and implementation. All the while, we nurture talent and leadership skills so that our clients' success is continuous.

Our work is supported by extensive knowledge investment. In 2012, the McKinsey Global Institute published The archipelago economy: Unleashing Indonesia's potential. This report—and other knowledge development efforts like it—illustrate our dual commitment to supporting our clients with the latest research and investing in Indonesia's long-term economic growth.

McKinsey is committed to the future of Indonesia. In 2008, we founded Young Leaders for Indonesia (YLI), an intensive leadership training program for university students. YLI aims to train 1,000 Indonesian students and give them skills to emerge as the country's next generation of leaders. When crisis strikes, we take an active role in helping public and social institutions respond. In the aftermath of the 2004 earthquake in Aceh, we contributed our management expertise to improve the impact of recovery measures and strengthen Indonesia's future resilience.

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