YOUTH ENTREPRENEURS ENGAGING IN THE DIGITAL ECONOMY

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ABSTRACT

A better understanding of how and why young entrepreneurs in South Asia and South-East Asia use digital financial services and digital business solutions can fuel inclusive growth and youth entrepreneurship in those regions. This report offers an up-to-date regional picture of trends related to youth entrepreneurship and financial inclusion based on results from Findex and Global Entrepreneurship Monitor (GEM) survey data, as well as qualitative insights from an online survey of 64 young entrepreneurs. Our analysis found that youth enterprises in South Asia and South-East Asia use digital platforms mainly for marketing, sales and business operations; we also found interesting examples of companies that use digital solutions to promote inclusive growth, education, and health. There has been a rapid expansion in youth using digital payments, including mobile money, although this growth has mostly occurred among more educated and richer youth. With rapid technological growth there is an increased opportunity to better link digital finance and business platforms for young entrepreneurs, especially for developing countries. There is also a need for a wider range of digital financial service offerings, including savings, remittances and credit, and for these services to be better tailored to the needs of existing youth enterprises. The study recommends some alternative fintech solutions that can help fulfil this need.

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LIST OF ABBREVIATIONS AND ACRONYMS

ASEAN	Association of Southeast Asian Nations
ES	Enterprise surveys
GDP	Gross domestic product
GEM	Global Entrepreneurship Monitor
LDC	Least developed country
MSMEs	Micro, small and medium-sized enterprises
SAARC	South Asian Association for Regional Cooperation
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme

ABOUT UNITED NATIONS CAPITAL DEVELOPMENT FUND

The UN Capital Development Fund (UNCDF) makes public and private finance work for the poor in the world's 47 least developed countries. With its capital mandate and instruments, UNCDF offers "last mile" finance models that unlock public and private resources, especially at the domestic level, to reduce poverty and support local economic development. UNCDF's financing models work through two channels: financial inclusion that expands the opportunities for individuals, households, and small businesses to participate in the local economy, providing them with the tools they need to climb out of poverty and manage their financial lives; and by showing how localized investments—through fiscal decentralization, innovative municipal finance, and structured project finance—can drive public and private funding that underpins local economic expansion and sustainable development. By strengthening how finance works for poor people at the household, small enterprise, and local infrastructure levels, UNCDF contributes to SDG 1 on eradicating poverty and SDG 17 on the means of implementation. By identifying those market segments where innovative financing models can have transformational impact in helping to reach the last mile and address exclusion and inequalities of access, UNCDF contributes to a number of different SDGs. UNCDF SHIFT in ASEAN is supported by the Australian Government.

LEAVING NO ONE BEHIND IN THE DIGITAL ERA

The UNCDF strategy 'Leaving no one behind in the digital era' is based on over a decade of experience in digital finance in Africa, Asia and the Pacific. UNCDF recognizes that reaching the full potential of digital financial inclusion in support of the Sustainable Development Goals (SDGs) aligns with the vision of promoting digital economies that leave no one behind. The vision of UNCDF is to empower millions of people by 2024 to use services daily that leverage innovation and technology and contribute to the SDGs. UNCDF will apply a market development approach and continuously seek to address underlying market dysfunctions. As part of this strategy UNCDF contributes to achieving SDG 8 focusing on decent work and inclusive economic growth to promote youth financial inclusion, empowerment and entrepreneurship. UNCDF SHIFT ASEAN is grateful for the support of the Australian Government.

ABOUT UNITED NATIONS DEVELOPMENT PROGRAMME

The United Nations Development Programme (UNDP) is the leading United Nations organization fighting to end the injustice of poverty, inequality, and climate change. Working with our broad network of experts and partners in 170 countries, we help nations to build integrated, lasting solutions for people and planet. Learn more at undp.org or follow at @UNDP.

ABOUT YOUTH CO:LAB

Co-created in 2017 by UNDP and the Citi Foundation, Youth Co:Lab aims to establish a common agenda for Asia-Pacific countries to empower and invest in youth to accelerate implementation of the Sustainable Development Goals (SDGs) through leadership, social innovation and entrepreneurship. By developing 21st century skills, catalysing and sustaining youth-led startups and social enterprises across the region, Youth Co:Lab is positioning young people front and centre in order to solve the region's most pressing challenges. In addition to supporting youth entrepreneurship, Youth Co:Lab works closely with multiple stakeholders across the region, including governments, civil society and the private sector, to strengthen the entrepreneurship ecosystem and provide policy support to better enable young people to take the lead on new solutions that will help meet the SDGs.

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EXECUTIVE SUMMARY

Understanding to what degree young entrepreneurs in South and South-East Asia rely on digital financial services and digital business solutions and how they are benefitting from them can improve youth entrepreneurship and financial inclusion. This report delivers an up-to-date regional picture of trends related to youth[1] entrepreneurship and financial inclusion using Findex and Global Entrepreneurship Monitor (GEM) data, as well as qualitative insights from an online survey of 64 young innovation driven entrepreneurs connected to UNDP and Citi Foundation's Youth Co:Lab initiative.

YOUTH ENTREPRENEURSHIP

Although rates of entrepreneurship in the 17 countries that belong to the Association of South-East Asian Nations (ASEAN) and the South Asian Association for Regional Cooperation (SAARC) is consistently lower for youth compared to adults, there has been some improvement over time, particularly in emerging economies such as India, Indonesia, the Philippines and Viet Nam. GEM (2015) suggests this is due in part to growing confidence on the part of young people seeking to start a business, and in part to the gradual lowering of regulatory costs associated with starting a new business.

Our qualitative survey conducted with 64 young, innovative and growth-seeking entrepreneurs found that they apply digital solutions mainly for marketing, sales, customer service and business operations.

Across ASEAN and SAARC countries, smartphones, computers and other digital devices are becoming more affordable and available. For example, in 2017 the rate of mobile phone ownership among youth (15-25 years) was around 78 percent in ASEAN and 66 percent in SAARC (Findex, 2017); owning a mobile phone provides significant opportunities for digital business and finance applications. At the same time, the use of digital technology and its potential associated benefits are far from evenly distributed across and within countries, with the biggest disparities seen between secondary and tertiary educated and primary educated youth. There is also a gender gap in mobile phone ownership among youth in several SAARC countries.

Our qualitative survey conducted with 64 young, innovative and growth-seeking entrepreneurs found that they apply digital solutions mainly for marketing, sales, customer service and business operations. The majority of enterprise respondents (53 out of 64) identified digital technology as a driver of their business or said that without digital technology their business would face constraints in expansion. Survey respondents reported using resource-planning software, online career portals, event planners, online collaboration platforms, corporate messenger and video-conference platforms, and real time data analytics platforms. Interestingly, while entrepreneurs who wanted to set up businesses seemed interested in advanced technologies such as

1 Youth – People having age between 15 and 24 (United Nations Secretariat)

blockchain, artificial intelligence and machine learning, actual business owners mainly used conventional technologies such as social media.

The online survey further highlighted interesting examples of how social businesses leveraged digital solutions to scale education, health and micro, small and medium enterprises (MSME). Examples included health care monitoring apps that match people with health care service providers; company that offer online sign language interpretation for deaf people; online marketplaces that match students and teachers; and crowdsourcing platforms for social enterprises.

YOUTH FINANCIAL INCLUSION

Despite positive developments and innovative examples of youth entrepreneurship capabilities, the potential of young people to help drive higher rates of inclusive growth in South Asia and South-East Asia remains untapped because of several barriers, including their lack of access to financial services. Overall, youth in both the SAARC and ASEAN regions are around 9 percent less likely to have access to formal financial services compared to older adults for both SAARC and ASEAN regions (Findex, 2017). The difference between adults and youth access to financial services are especially large in Myanmar (29 percent); followed by the Philippines (16 percent); Cambodia (14 percent); Bangladesh (14 percent); and India, Pakistan and Nepal (11 percent) (Findex, 2017).

The percentage of young people using digital payments has increased rapidly from 13 to 21 percent in SAARC and from 24 to 32 percent in ASEAN over the period 2014 to 2017.

Moreover, few young people in the ASEAN and SAARC regions borrow money (4 percent) or save (20 percent) via the formal sector when starting, operating or expanding a business (Findex, 2017). The majority rely on informal financing to fund their businesses. Young entrepreneurs looking to access formal finance for their business face many of the same barrier as older adults, with additional ones including a lack of collateral and credit history, Know Your Customer (KYC) requirements, low perceived business skills and experience, and minimum age requirements for opening a bank account (UNCDF, 2018). As such, the ASEAN and SAARC MSME finance gap is estimated to be around US$830 billion.

At the same time, large numbers of young people in South and South-East Asia are beginning to use digital financial services at a rapid rate. Between 2014 and 2017, the percentage of young people receiving or sending digital payments—using mobile money, credit and debit cards—increased in SAARC from 13 percent to 21 percent and in ASEAN from 24 percent to 32 percent (Findex, 2014–2017). In Bangladesh, Indonesia, Malaysia, Thailand and Sri Lanka, growth in digital payment access has been rapid. Education is a major factor in the uptake of digital payment services for youth. There is a significant gap in digital payment use between youth with at least a tertiary level education and youth who have only received a primary or lower education in the ASEAN (-31 percent) and SAARC (-21 percent) regions (Findex, 2017).

In some countries such as Sri Lanka, Bangladesh and India, there is a widening gender gap in access to digital payments even for youth. There is need to link digital payments to other financial services such as savings, credit and international remittances; one way of doing this is by linking youth to additional digital business solutions and platforms.

Furthermore, financial services need to be tailored very differently for growth-oriented businesses generally run by more educated and better off entrepreneurs compared to necessity-driven businesses generally run by lower income people with lower financial literacy.

RECOMMENDATIONS FOR FINANCIAL SERVICE PROVIDERS

Overall, youth in both the SAARC and ASEAN regions are around 9 percent less likely to have access to formal financial services compared to older adults.

The rapid growth in access to digital devices, the internet and digital finance, generates new opportunities to link digital finance and digital business platforms for young entrepreneurs in ASEAN and SAARC countries. New business models are emerging through the rise of financial technology, or 'fintech,' that can accelerate rates of financial inclusion and entrepreneurship for youth in these regions. Youth-owned enterprises seem to be increasingly adopting a number of digital finance and business solutions. The following is a set of digital finance and fintech solutions that have been effective in improving rates of youth entrepreneurship and financial inclusion and that can be replicated in other Asian countries.

Alternative credit scoring for young entrepreneurs lacking credit history: Alternative credit scoring can reduce lending risk by accurately scoring youth talent and entrepreneurial capability, and also reduce collateral requirements and the need for prior use of formal financial services. This in turn increases youth entrepreneurs' ability to access formal credit, and thus creates a pathway for youth entrepreneurs to enter the formal financial system.

Mobile wallets and digital banking services tailored for millennials: As young people in South Asia and South-East Asia increasingly use digital financial services, financial service providers need to design business solutions tailored to their needs, both as individuals and as business owners. Such tailored solutions should include convenient access to low-cost digital savings accounts, payments, insurance and loans, and should take into account type of enterprise, educational background, digital and financial literacy levels, and gender. For example, in collaboration with UNCDF, LienVietPostBank has marketed its mobile wallet through universities to reach youth and through the Viet Nam Women's Union to reach female youth.

Business funding online platforms: Crowdfunding, person-to-person (P2P) and venture capital financiers have opened new channels for young entrepreneurs to access available funding for their businesses, and fintechs have played a key role in facilitating this shift. Peer-to-peer lending platforms directly connect MSMEs looking for finance with a crowd of investors. Such platforms automate the screening of each business listed on the platform and facilitate the financial agreement between the business and investors, charging a percentage of the amount loaned as a fee. Other fintech firms also combine peer-to-peer platforms with the digitization of invoice financing. This represents another means by which cash-poor MSMEs can access the capital they need to grow.

Linking digital platforms with digital financial services: UNCDF has been working on the gig economy in Malaysia with 18 start-ups that are creating and refining products and services that help particularly low- and moderate - income people to improve their financial health. GoGet is one such example, it runs an on-demand digital workforce platform that helps connect in particular young people who need specific jobs to a network of verified workers, called "GoGetters". Digital platforms can offer a wide variety of services thereby digitally connecting the financial and job market sectors.

Digital financial literacy and capability: As secondary and tertiary educated youth in ASEAN and SAARC are adopting the use of digital finance at a much faster rate than primary educated youth, it has become even more important to improve access to digital finance for the latter group. One core challenge is the scaling of financial literacy programs. UNCDF piloted a digital financial literacy app as well as financial literacy learning modules in Myanmar using chatbots and e-learning.

There are several digital financial literacy tools tailored to children, including mobile wallets and digital piggy banks that also offer educational opportunities for children (such as Ernit and Bankaroo); Cambodia's Money Tree delivers online movies for children that educate them about digital finance. Young role models can also help children achieve financial literacy. Another interesting example is KidLetCoin, a blockchain startup that enables kids to earn KID coins for chores, or for reaching new learning goals in reading and math. The CEO is only 10 years old and started her company with her mother with the goal of helping children learn about cryptocurrencies.

Advancing youth social enterprise financing: Our online survey demonstrated interesting examples of how social businesses leveraged digital solutions to scale education, health and enterprise growth solutions. Examples varied and included companies that offer online sign language interpretation for deaf people, online marketplaces that match students with teachers, and health care monitoring apps that can link users to health care providers. There is a need to replicate and pilot such viable social business solutions through innovation hubs and accelerators.

RECOMMENDATIONS FOR POLICYMAKERS TO ENHANCE FINANCIAL INCLUSION AND ADDRESS THE 'DIGITAL DIVIDE'

Policymakers and regulators have vital roles to play in proactively shaping policy and regulatory frameworks to enhance young people's access to financial services. Targeted policy measures are required to address digital divides between and within countries in ASEAN and SAARC to ensure equitable access and that the most vulnerable groups are not left behind.

Policymakers must take proactive measures to close gaps both between and within economies across ASEAN and SAARC in terms of young people's access to digital financial services. Gaps persist in many countries between young men and young women, between primary educated and secondary or tertiary educated youth, and between urban and rural youth in terms of access to financial services. The data in this paper suggests that less educated youth also have a hard time catching up in the digital era.

To address these gaps, a suite of complementary policy measures is required to enhance financial and digital literacy and bring down costs and other barriers to accessing financial services. Development partners such as UNCDF and UNDP have key roles to play in supporting policymakers to reduce financial inclusion gaps both within and between countries (See section 5 for more information).

UPDATED OUTLOOK FOR ASEAN AND SAARC

01 INTRODUCTION

South and South-East Asia are home to a combined 440 million young people aged 15-24 years, equivalent to almost 35 percent of the world's population (UNDESA, 2019). Although most of the countries in these two regions are currently experiencing economic growth, over 50 percent of working age people are engaged in vulnerable, low-paid employment. Youth unemployment levels remain high in South and South-East Asia, even as an increasing number of young people reach working age (ILO, 2016). One way to generate decent work and inclusive growth is by equipping young people with technologies that can help them to start and expand new businesses while also improving levels of financial inclusion. Difficulties persist, however, including legal and regulatory challenges and a lack of access to finance.

This working paper is the result of a study conducted by UNCDF and UNDP and Citi Foundation's Youth Co:Lab initiative on youth entrepreneurship, digital finance and business solutions in the ASEAN and SAARC regions,[2] the second such study in this series (see UNCDF and UNDP, 2018). This study showcases insights on youth entrepreneurship and digital business solutions (Section 2), digital devices (Section 3) and financial inclusion (Section 4). The paper draws largely from the analysis of 52,582 individual Findex surveys (for 2017) as well as World Bank Enterprise Surveys and the Global Entrepreneurship Monitor (GEM, 2015). This is further supplemented by feedback from 64 young innovation-driven entrepreneurs from 10 ASEAN and SAARC countries who participated in a qualitative survey on how they use digital finance and digital business solutions for their enterprises.

2 The South Asian Association for Regional Cooperation (SAARC)—also referred to as South Asia in this study—includes Afghanistan, Bangladesh, Bhutan, India, Nepal, Maldives, Pakistan and Sri Lanka. The Association of South-East Asian Nations (ASEAN)—also referred to as South-East Asia in this study—includes Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Viet Nam.

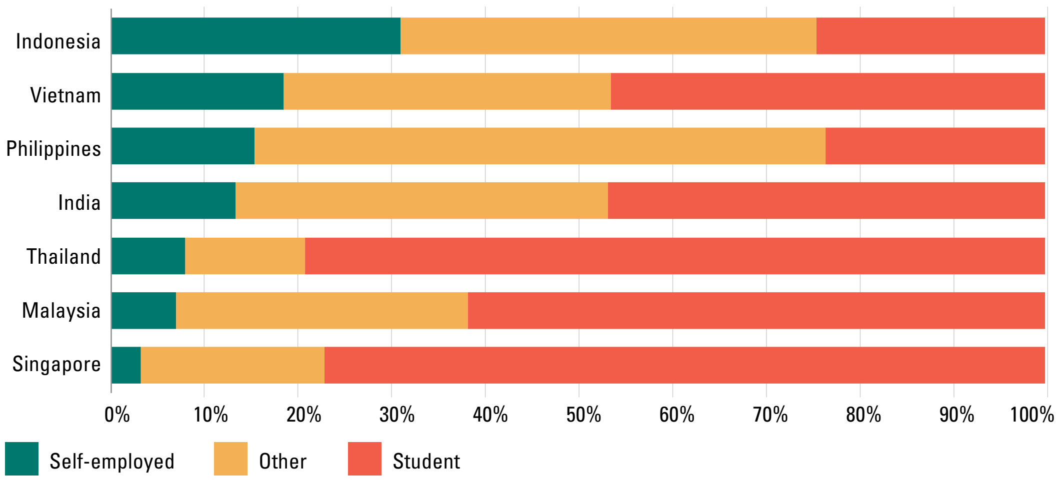
02 YOUTH ENTREPRENEURSHIP

Although rates of entrepreneurship in the 17 countries that belong to ASEAN and SAARC is consistently lower for youth as compared to adults, there has been some improvement over time, particularly in emerging economies such as India, Indonesia, the Philippines and Viet Nam. For example, in India the share of youth engaging in entrepreneurship has almost doubled between 2012 and 2015, from 7 percent to 13 percent. In Viet Nam and Indonesia more than 15 percent of 16- to 24-year-olds are involved in business activities (GEM 2019).

One explanation for the low levels of self-employment in the ASEAN and SAARC regions is because young people are still in the process of gaining education. Increased levels of entrepreneurship by youth is not always a positive sign because it can indicate necessity entrepreneurship, which refers to people who are pushed to start a business out of need or to maintain their income.

While entrepreneurship, especially in low-income SAARC and ASEAN countries, tends to be predominantly driven by necessity, more young people are becoming opportunity entrepreneurs, especially in the regions' medium- and high-income countries where it is becoming easier to pursue higher levels of education. On average, opportunity entrepreneurs—meaning people who start businesses with a desire for greater independence or to increase their income—have higher performance and better management practices than necessity entrepreneurs. They start businesses from choice as opposed to from necessity.

Figure 1 Percentage of Youth Who Are Self-Employed versus Students, by Country



Source: Global Entrepreneurship Monitor, 2014/15

Evidence also suggests that a reason for this increase in opportunity entrepreneurship is the growing confidence on the part of young people seeking to start a business, along with the gradual lowering of regulatory costs associated with starting a new business (GEM, 2015). According to a GEM study, young people in Indonesia, the Philippines and Viet Nam became more confident in their ability to start a business between 2013 and 2015, closing the gap between youth and adults (Figure 2). Malaysia and India, on the other hand, experienced a decline in the percentage of youth who consider themselves fit to start a new business, even though their original levels in 2013 were similar to adults.

Young women in Thailand, Indonesia and the Philippines reported being more confident in their business abilities than young men; the opposite was the case in all three countries just two years previously.

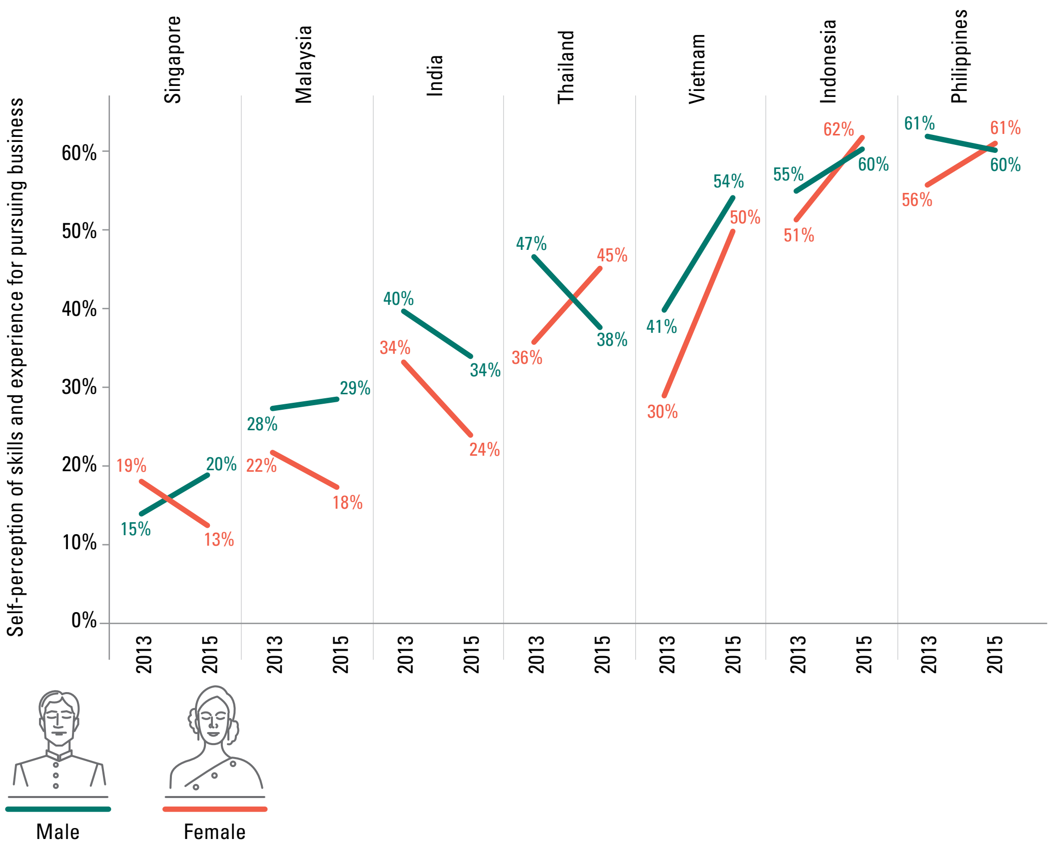
The GEM survey also reveals a significant difference between countries; for example, both young people and older adults in the Philippines, Indonesia and Viet Nam report higher levels of confidence in their skills to start a business. In Singapore and Malaysia, people are less eager to start a business, perhaps because there are more job opportunities. Overall, youth are consistently less confident in their business abilities as compared to older counterparts in the ASEAN and SAARC countries covered by the GEM study.

The same GEM study, however, paints a rosier picture for some ASEAN countries when it comes to how young women in those countries feel about starting their own business compared to young men (Figure 3). Young women in Thailand, Indonesia and the Philippines reported being more confident in their business abilities than young men; the opposite was the case in all three countries just two years previously. Nonetheless, some countries show clear signs of rising gender inequality. India and Malaysia saw the proportion of confident female youth falling over the same time

Figure 2 Self-Perception of Skills and Experience for Pursuing Business by Youth and Adults, 2013-2015

Source: Global Entrepreneurship Monitor, 2014/15

Figure 3 Self-Perception of Skills and Experience for Pursuing Business, by Gender Youth, 2013-2015



Source: Global Entrepreneurship Monitor, 2014/15

period. In Indonesia, the share of female youth confident in their business skillsets dipped below that of male youth in 2014 after starting off at a higher level in 2013.

Digital technologies are shaping the notion of the 'gig economy' (UNDP, 2017), which may be described as a free market system where organisations often through digital or technology platforms engage in short term work arrangements. Gig employees are more likely to be young and often work through online platforms that connect offerors and bidders (like Uber, AirBnB and many others). As independent workers they take up self-employment activities that were previously undertaken in-house by firms often through wage employment. The gig economy brings both challenges and opportunities for young workers in ASEAN and SAARC. On the one hand, job security has lessoned and existing jobs may fade out under the influence of digital technology. On the other hand, new employment emerges using digital connectivity as a business opportunity to generate more inclusive economies (UNDP, 2017).

The regulatory cost for youth to start a business is gradually becoming more favorable for startup companies. Among ASEAN and SAARC countries, the average costs of business start-up procedures as a share of gross national income are 12 percent and 24 percent respectively, which is lower than the world average (World Bank, 2018). In some countries it has become easier for companies to obtain work regulations from the government and faster registration processes have reduced the time required to start a business; for example, in Thailand that time has shrunk from 27.5 to 4.5 days. Brunei Darussalam, India, Indonesia and Pakistan also lowered the time and costs associated with starting a business (World Bank, 2018).

03 YOUTH ADOPTION OF DIGITAL DEVICES AND DIGITAL BUSINESS SOLUTIONS

Across ASEAN and SAARC countries, smartphones, computers and other digital devices are becoming more affordable and available.[3] For example, in 2017 the rate of mobile phone ownership among youth (15-25 years) was around 78 percent in ASEAN and 66 percent in SAARC (Findex, 2017); owning a mobile phone provides significant opportunities for digital business and finance applications. At the same time,

Mobile phone ownership among youth (15-25 years) was around 78 percent in ASEAN and 66 percent in SAARC (Findex, 2017)

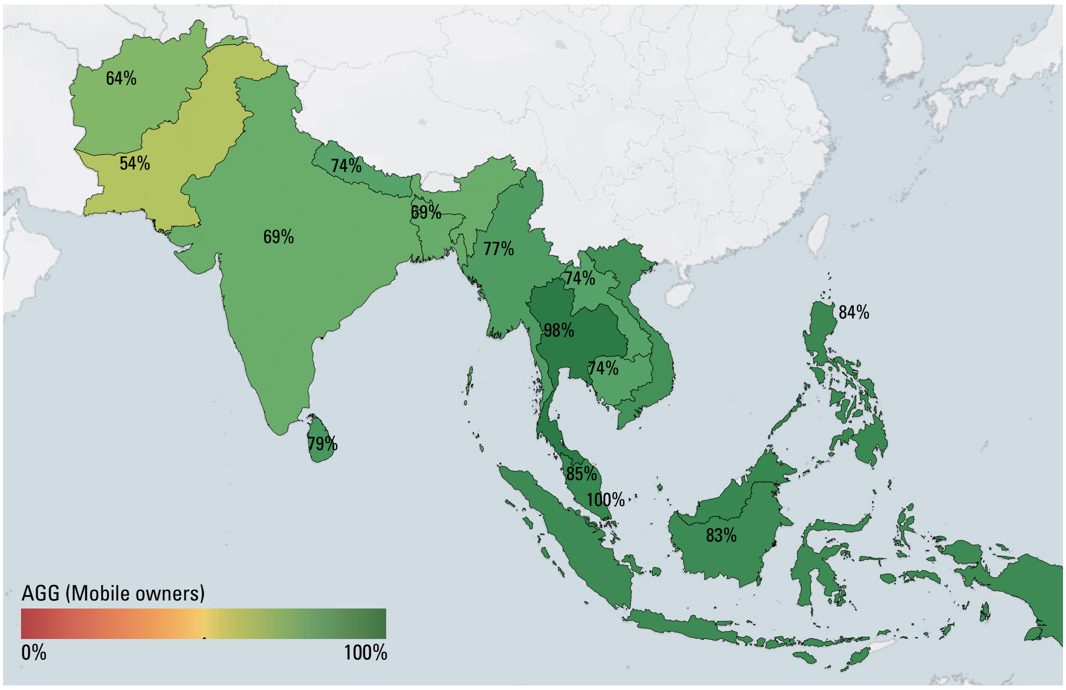
Table 1 Mobile phone ownership in SAARC and ASEAN in 2017, Youth versus Adult, by Gender and Education Level

	SAARC		ASEAN	
	YOUTH	ADULT	YOUTH	ADULT
ADULT POPULATION	66%	65%	78%	81%
MALE	80%	76%	80%	83%
FEMALE	52%	56%	82%	75%
SECONDARY AND TERTIARY EDUCATED	73%	85%	89%	91%
UNEDUCATED AND PRIMARY EDUCATED	55%	57%	71%	70%
IN THE WORKFORCE	79%	75%	82%	83%
OUT OF THE WORKFORCE	57%	54%	81%	70%

Source: Global Findex Survey, 2017

3 For example, the average price of a personal computer fell by 94.5% between 1997 and 2015, while average price of computer software fell by 63.2% in the same period (U.S. Bureau of Labor Statistics 2015). A similar pattern is seen with smart phone devices (Byrne et al., 2019). Prices of hardware and software are falling rapidly as manufacturers cut costs and expand into developing and low-income markets.

Figure 4 Rates of Youth Mobile Phone Ownership in 2017, by Country



Source: Global Findex Survey, 2017

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the widespread use of digital technology and its potential associated benefits are far from evenly distributed across and within countries, particularly across gender and education levels (Table 1). SAARC countries show a significant gender gap in mobile phone ownership, with significantly more men than women owning mobile phones, even among young people. In both ASEAN and SAARC countries, youth who are in the workforce and who have completed a secondary and tertiary education have significant higher rates of mobile phone adoption.

Slightly over half of the survey respondents mentioned using digital platforms for marketing, communication or customer support services, often in combination with social media.

To better understand whether young entrepreneurs are adopting digital business solutions, and if so, which ones, we conducted a qualitative survey of 64 youth entrepreneurs from 10 ASEAN and SAARC countries who own businesses in various sectors including education, health, financial services and agriculture (see Appendix I). The majority of respondents are connected with the UNDP and Citi Foundation Youth Co:Lab initiative and are predominately early stage and opportunity entrepreneurs, and, or innovation driven social enterprises. The qualitative sample includes the perspectives of entrepreneurs in 10 countries. It does not represent the overall ASEAN and SAARC youth entrepreneurs, but offers a flavor of what digital platforms entrepreneurs currently utilize.

The majority of enterprise respondents (53 out of 64) identified digital technology as a driver of their business or said that without digital technology their business would face constraints in expansion. Close to two-thirds of survey respondents agreed that digital business solutions are so vital to the success of their businesses, and without them they would not be able to operate or else would lose significant levels of efficiency. The digital business solutions respondents rely on include resource-planning software, online career portals, event planners, online collaboration platforms, corporate messenger and video-conference platforms, and real time data analytics platforms; most of these solutions are developed by third parties as opposed to in-house.

Slightly over half of the survey respondents mentioned using digital platforms for marketing, communication or customer support services, often in combination with social media. Apart from Facebook and Instagram, some of the other social networks mentioned by the respondents were Twitter, Pinterest, LinkedIn, and TikTok. These young entrepreneurs reported using social networks not only to raise awareness about their businesses, but also to sell their products and services, and to connect and communicate with their customers. Some businesses set up their own websites and marketplaces and used e-commerce platforms to sell their products. Respondents also mentioned automated social network expansion services, such as Postfly, and customer relationship management platforms like Salesforce or chatbots designed via wit.ai as instruments of achieving growth in sales. Google AdWords and Facebook advertisements delivered additional means of reaching the target audience. Respondents further applied MailChimp and ContentStudio to promote sales through automated marketing.

Digital business solutions helped to support customer analytics to identify customer needs, both geographically and demographically. Most respondents use third party analytics, cloud and office applications to inform their businesses analytics. Pay-as-you-go cloud computing models allow entrepreneurs to minimize investments in hardware.[4] Digital solutions were also used to carry out design tasks for generating content and communication products. Several entrepreneurs mentioned developing their own video animation using Adobe After Effects and designing visual media content via Canva, something that was too costly to produce for start-ups not many years ago.

Digital solutions were also used to carry out design tasks for generating content and communication products.

Several youth entrepreneurs reported using digital business solutions to improve operational efficiency. Human resource management, event planners, collaboration platforms, corporate messengers and video conferencing platforms were among the main examples. Respondents identified these platforms as crucial for engaging with employees, business partners, and other stakeholders especially in an environment where they work remotely. A few respondents used resource planning and accounting platforms as a way to track and use data on their business activities. The digital revolution has also left its marks on human resource management. For example, online career portals such as LinkedIn and Rojgari are used by the surveyed entrepreneurs to search for potential employees.

Some respondents promoted digital technologies for other enterprises. For example, LawKo in the Philippines used social media-based chatbots to help their clients with every step simplifying information in legal processes. Crowdfunding platforms such as the Global Corporate Business and Charity Developments have made it easier for social enterprises to raise money. Market research company Rooster Logic in Nepal uses real time and nationwide data collection apps, aggregation, analysis and visualization. It recently supported the country's exit polls for local and general elections. Another

4 Respondents used Google Docs, Microsoft Office, Amazon Web Services (AWS), Google Drive and iCloud to store data in the cloud, and *AWS*.

youth-led enterprise, based in India, was providing digital marketing, user experience and interface design services, and web development services to clients from various industries, and helping smaller businesses compete in local markets. In the Philippines, AI4GOV is using artificial intelligence (AI) chatbots linked to existing public ICT infrastructure to provide citizens with accessible public information and services.

Established business owners among the survey respondents reported relying more on conventional technologies such as social media and digital banking services.

Several of the respondents used digital solutions to expand education services in their countries. For example, in Pakistan, DeafTawk is offering online sign language interpretation using video calling with the goal of reaching 9 million deaf people. AlterYouth in Bangladesh is an education technology startup that developed an online marketplace matching learners and educators. Another respondent owned companies that use technology to deliver health services and highlighted "We are trying to improve the situation in Bangladesh where the cost of health care can be very high, there is absence of health records, and almost no referral system. Through the digital platform, individuals will be able to monitor their health, store health records, get feedback, and get referrals for the next level of treatment in case of emergencies."– Bangladeshi health-tech startup offers a platform that enables users to keep track of their health care needs and connects them with healthcare service providers.

Finally, 64 young people responded to the online survey who aspired to start up a business but had not done so yet. Many of them mentioned being interested in advanced technologies such as blockchain, artificial intelligence, and machine learning. This was interesting as, conversely, the established business owners among the survey respondents reported relying more on conventional technologies such as social media and digital banking services. One reason for this could be that newer technologies, like blockchain or machine learning, are very aspirational for youth but in reality they may still be out of reach for young new start-up entrepreneurs. This could be an area for further research.

04 YOUTH ACCESS TO DIGITAL FINANCIAL SERVICES

The full potential of youth as an engine of inclusive growth in the ASEAN and SAARC regions remains untapped, due in part to their lack of access to formal financial services.

The full potential of youth as an engine of inclusive growth in the ASEAN and SAARC regions remains untapped, due in part to their lack of access to formal financial services. Only around 53 percent of youth in the ASEAN region and 45 percent in the SAARC region have access to one financial service[5] compared to 63 percent and 54 percent for older adults (Findex, 2017).[6] Although access to finance increased considerably among young adults in South and South-East Asia between 2011 and 2017, there remains a significant 'youth finance gap,' and young people are 9 percent less likely to have access to formal financial services than older adults in both the SAARC and ASEAN regions[7]. Of course, there is a big difference in the size of this gap between countries: Malaysia, Singapore, Sri Lanka and Viet Nam showing small or negligible gaps in access to finance between youth and adults; in Myanmar, however, there is a 29 percent gap between youth and adults, followed by the Philippines (16 percent), Cambodia (15 percent), Bangladesh (14 percent), and India, Nepal and Pakistan (each 11 percent).

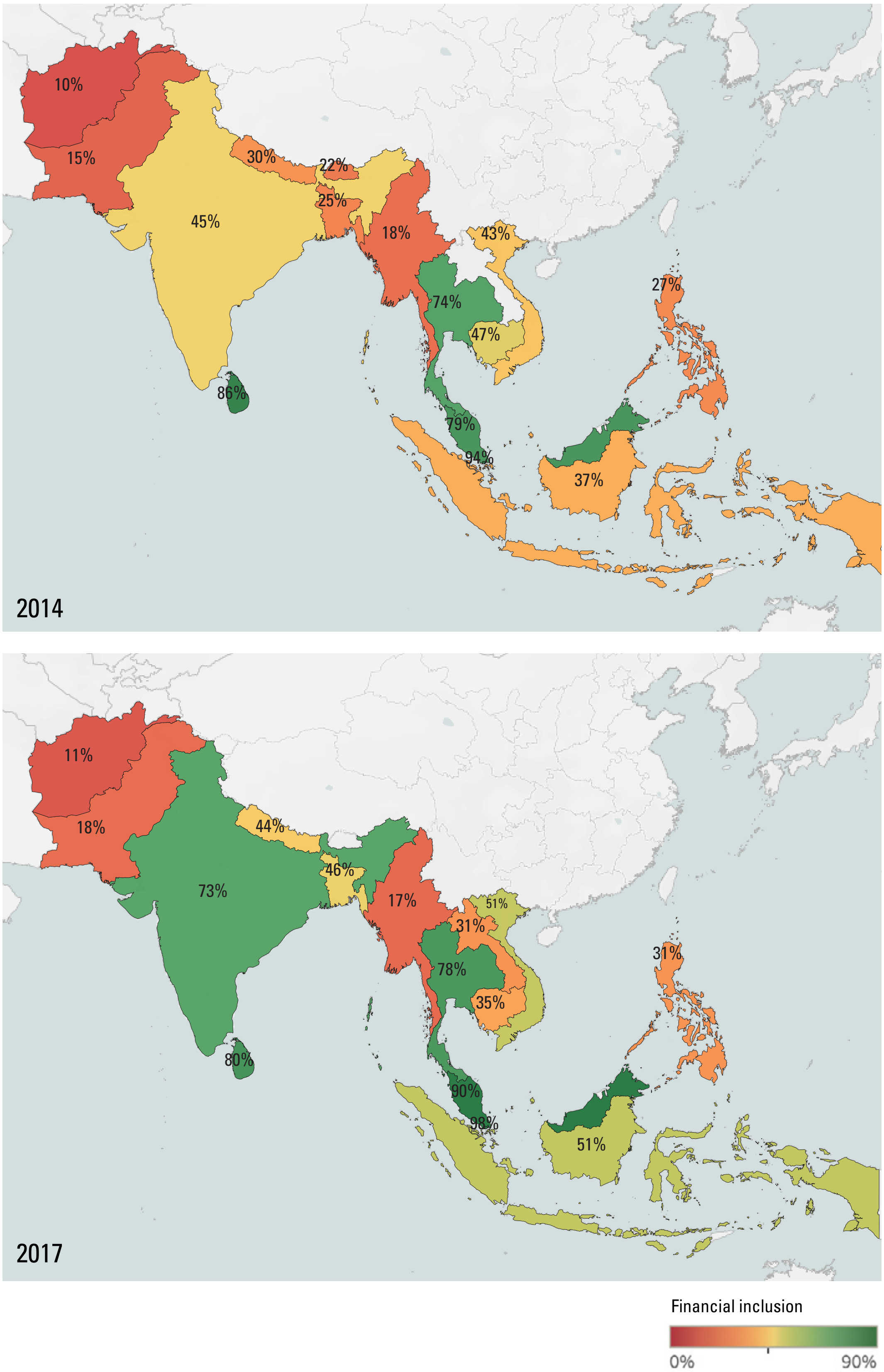
However, there was significant growth in the region in the percentage of youth who started using at least one form of formal financial services between 2014 and 2017 (see Figure 5), particularly in India, Bangladesh and Indonesia, where rates increased by 28 percent, 21 percent and 14 percent respectively. Only two countries experienced a decline during that same period of time: Cambodia (12 percent), Sri Lanka (6 percent) and to less extent Myanmar (1 percent). Reasons for this are likely country and context specific, for example a recent study in Cambodia found that microfinance institutions and banks sometimes overlook young customers in spite that they are more active savers and loyal borrowers. They are thereby missing out of a business opportunity (UNCDF, 2018).

5 Access to one financial service is defined here as having access to at least one financial service. It includes individuals who have either an account at a formal financial institution or who use mobile money, a debit or credit card, or who make domestic remittances, receive their wage or pay utility bills using a formal financial service.

6 This report uses the simple averages of all countries in the given region. Note the average access to one financial service weighted by adult population sizes would be higher, namely 50 percent for ASEAN youth and 59 percent for older adults (25-plus years). For SAARC, the weighted averages would be 63 percent for youth and 75 percent for older adults. This regional weighting gives a relatively high weight to certain countries since three-fourths of SAARC's population lives in India and 40 percent of the ASEAN population lives in Indonesia. Detailed country statistics for youth have undergone a sensitivity analysis but are not reported here because of low sample sizes for some countries.

7 The youth finance gap holds also for many other regions in the world as well.

Figure 5 Percentage of Youth with Access to One or More Forms of Formal Financial Services, by Country



Source: Global Findex Survey, 2017

Note: Access to one financial service is defined here as having access to at least one financial service. It includes individuals who have either an account at a formal financial institution or who use mobile money, a debit or credit card, or who make domestic remittances, receive their wage or pay utility bills using a formal financial service.

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Another serious barrier for youth-led enterprises is their difficulty in accessing financing for their businesses; in fact, this is a barrier experienced by two-thirds of all businesses in South and South-East Asia (World Bank Enterprise Surveys, 2017); young entrepreneurs also identify it as one of the most common reasons for giving up on a start-up venture. 45 percent of business exits in ASEAN and SAARC were due to either a lack of capital or limited profitability (Global GEM survey, 2018). Few young people in the ASEAN and SAARC region borrow (4 percent) or save (20 percent) via the formal financial sector to start, operate or expand a business (Findex, 2017). As such, most youth in these regions continue to rely on informal financing to fund their businesses.

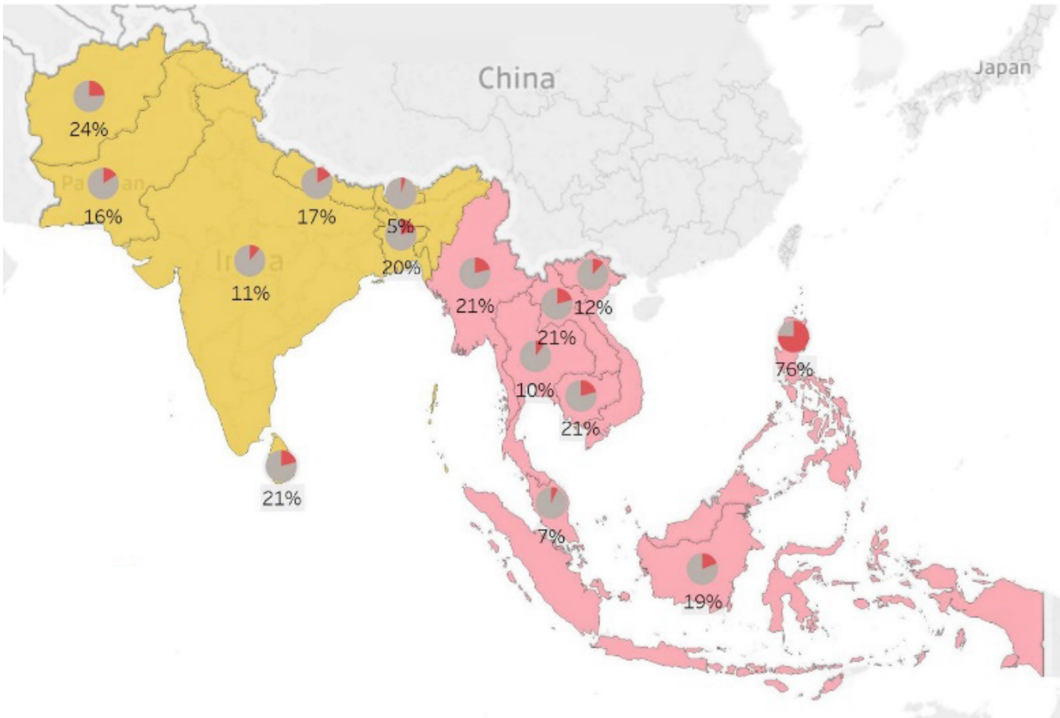
Research suggests that offering youth financing options, including savings and loans, can generate revenues for financial service providers by promoting customer loyalty.

The overall ASEAN and SAARC financing gap for micro, small and medium-sized enterprises (MSMEs) is an estimated US$830 billion (GEM, 2016).

The estimated shortage in financing varies between countries, from as low as 5 percent of GDP in Bhutan to as high as 76 percent of GDP in the Philippines (see Figure 5). The unmet demand for financing among young entrepreneurs is higher than among early-stage entrepreneurs on average (GEM, 2016).

Young entrepreneurs looking to access capital via formal financing channels for their business face perhaps similar yet potentially larger barriers than older adults, including a lack of collateral and credit history, an inability to meet know-your-customer requirements, and a low perceived estimation of their business skills and experience. Young people also face additional regulatory issues, such as minimum age requirements to open an account, among others (UNCDF, 2018). Youth often require smaller loans and savings, which creates higher transaction costs for financial service providers, resulting in increased levels of financial exclusion (UNCDF, 2018). Social and cultural norms present an additional barrier, particularly for MSME ownership.

Figure 6 MSME Finance Gap as percentage of GDP in ASEAN and SAARC Countries.



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However, research suggests that offering youth financing options, including savings and loans, can generate revenues for financial service providers by promoting customer loyalty (UNCDF, 2018; CGAP, 2014). For example, one study in Cambodia showed that youth there ended up being more loyal individual borrowers and active savers than their older counterparts (UNCDF, 2018).

DIGITAL PAYMENTS AND FINANCIAL SERVICES

Thanks to the widespread and rapid growth of mobile devices and access to the internet, youth in ASEAN and SAARC countries are increasingly using digital payments. For the majority of these youth, digital financial services are likely to be their first contact with the banking sector. Between 2014 and 2017, the percentage of youth receiving or sending digital payments—using mobile money, credit and debit cards—increased in SAARC from 13 percent to 21 percent and in ASEAN from 24 percent to 32 percent (Findex, 2014-2017). While all countries have experienced growth in the percentage of youth making digital payments, it has been particularly rapid in Bangladesh, Indonesia, Malaysia, Sri Lanka and Thailand; growth in young people's use of digital payments is just beginning to take off in countries like Myanmar and Nepal, where initially low rates—1 percent and 4 percent respectively—grew to 9 percent and 14 percent during that same period.

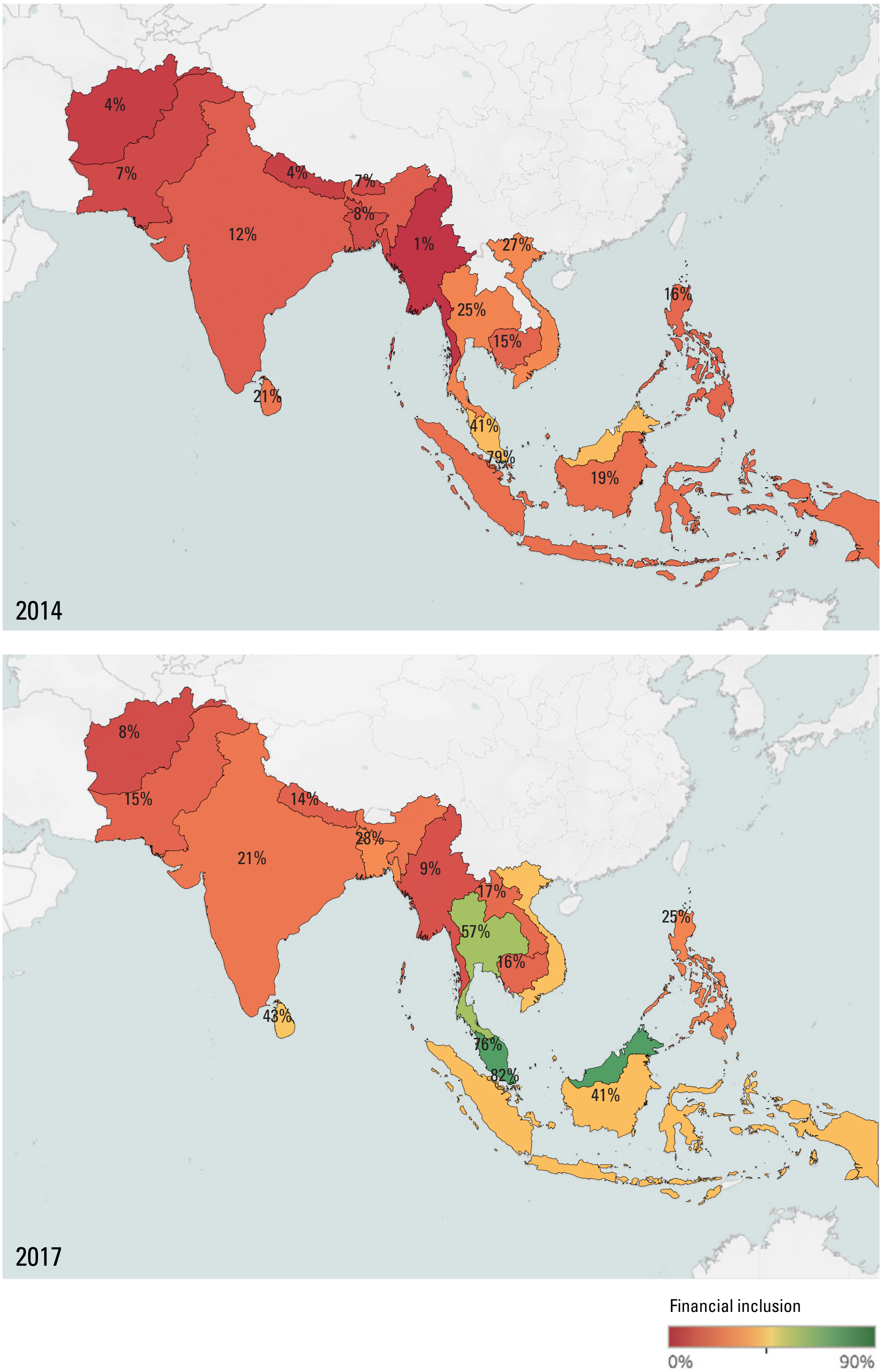
The growth in digital payments access hasn't been evenly distributed across all segments; youth with lower income, education levels and who are out of the workforce have lower access to digital payments. There is a significant gap in digital payment use between youth with at least a tertiary level education and youth who have only received a primary or lower education in the ASEAN (31 percent) and SAARC (21 percent) regions (Findex, 2017). People with higher levels of education are more likely to use digital devices and may feel more comfortable using digital finance services.

South Asia experienced a widening gender gap in access to digital payments between women and men, even for youth.

Employment status and income levels can also affect whether or not young people in these two regions adopt digital financial services. For example, in Indonesia, 57 percent of employed youth use digital payment services compared to only 25 percent of unemployed youth. In Bangladesh and Sri Lanka, the gap between employed and unemployed youth who have access to digital payment services is particularly high, at 26 percent and 22 percent respectively. Likewise, there is much lower access to digital payments for low income people who at the bottom 40 percent income segment compared to higher income people in both ASEAN (-16 percent) and SAARC (-6 percent), especially for ASEAN nations the gap seems to be widening (see Annex 2). To keep these already large gaps between more educated, employed and higher-income youth and their poorer, less educated counterparts from widening, digital payment services should be combined with customer-support services, including financial literacy coaching and awareness campaigns.

Meanwhile, South Asia experienced a widening gender gap in access to digital payments between women and men, even for youth. In less than three years, the overall regional gap in access to digital payments for young men and women has widened from 8 percent in 2014 to 15 percent in 2017. Young women are much less likely to make digital payments than young men in Sri Lanka (-19 percent), Bangladesh (-14 percent) and India (-8 percent). Other countries, including Afghanistan and Pakistan, have not yet grown their digital finance markets, but are expected to do so soon. The ASEAN region shows an opposite picture with a gender gap in favour

Figure 7 Percentage of Access to Digital Payment Services by Youth in ASEAN Countries 2014-17



Source: Global Findex Survey, 2017

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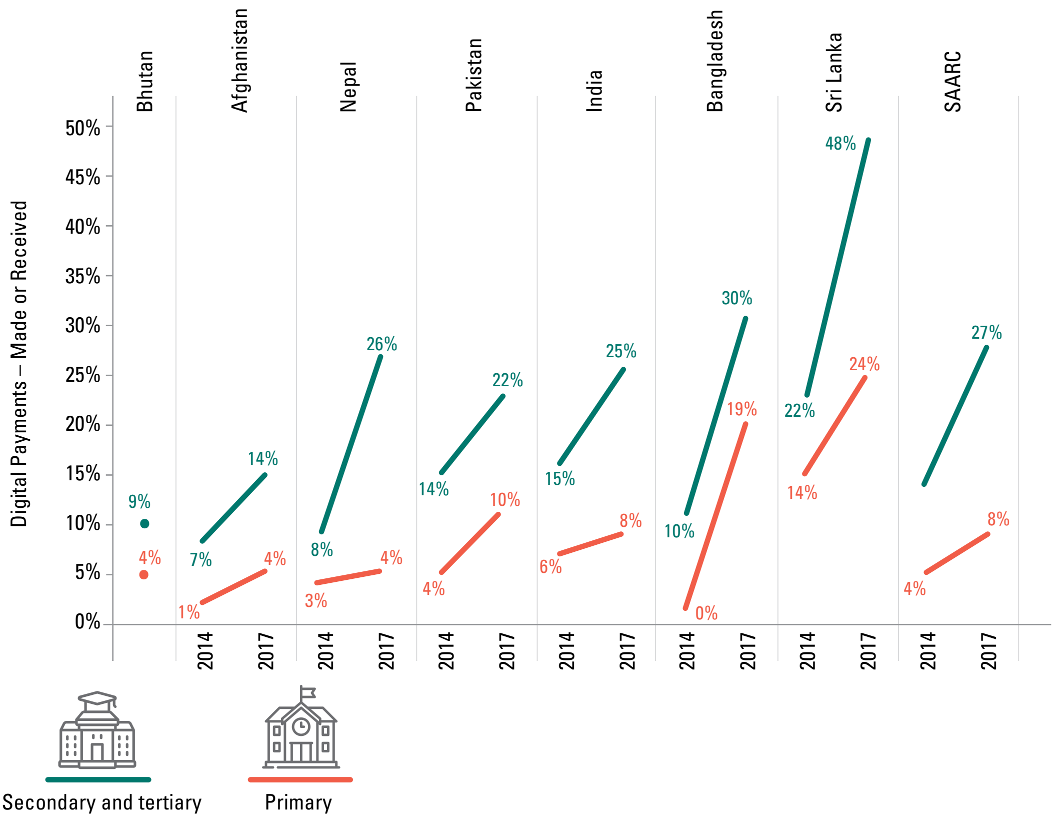
Figure 8 Percentage of Access to Digital Payment Services by Youth in ASEAN Countries, by Education Level, 2014-17

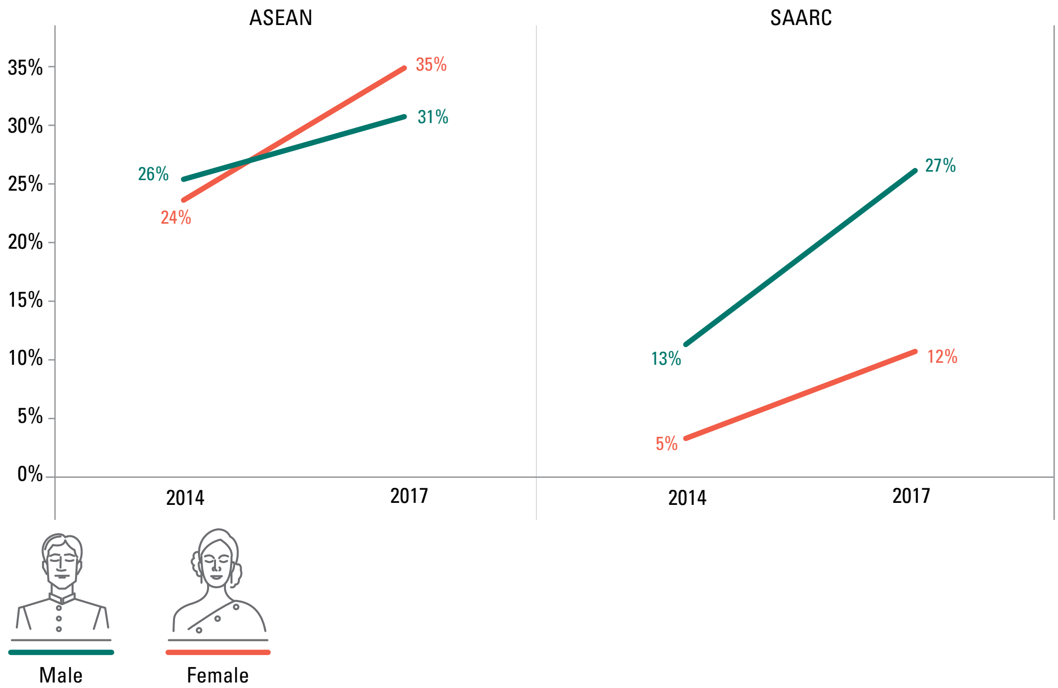
Source: Global Findex Survey, 2017

Figure 9 Percentage of Access to Digital Payment Services by Youth in SAARC Countries, by Education Level, 2014-17



Source: Global Findex Survey, 2017

Figure 10 Rate of Access to Digital Payment by Male and Female Youth, in ASEAN and SAARC Regions



Source: Global Findex Survey, 2017

The ASEAN region shows an opposite picture with a gender gap in favour of women's access (4 percent); the growth of young women using digital payment services increased from 24 percent to 35 percent from 2014 to 2017.

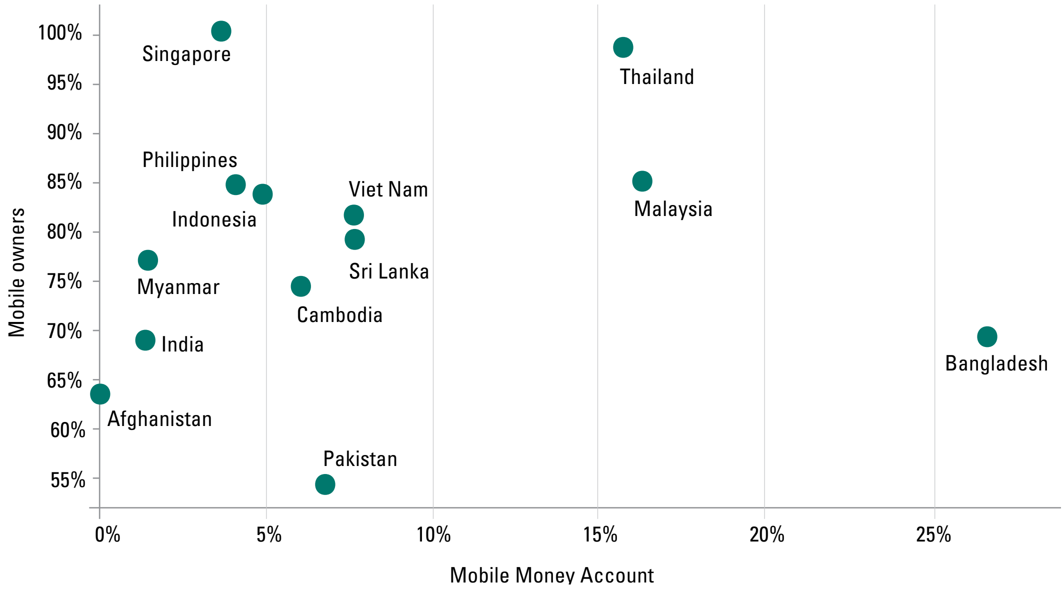
of women's access (4 percent); the growth of young women using digital payment services increased from 24 percent to 35 percent from 2014 to 2017[8].

Although over two thirds of youth in the ASEAN and SAARC regions own mobile phones- and this number is still rising- mobile money is only now beginning to penetrate emerging financial markets in ASEAN and SAARC. Bangladesh is the leading country in terms of access, with 27 percent of that country's youth using mobile wallets. However, though Bangladesh has by far the most mobile money account holders, there is a widening gender gap in access to digital finance, particularly for low-income women and women living in rural areas (Ebuoma, Gravesteijn, and Rutherford, 2018). For example, 45 percent of young men in Bangladesh have a mobile money account as compared to only 11 percent for young women (Findex, 2017). Likewise, almost 30 percent of micro-entrepreneurs in Bangladesh have a mobile financial services account, but they predominately use it for their personal use and not for their businesses (UNCDF, 2018). In Bangladesh, the majority of digital financial services are used for making domestic payments and receiving international remittances and there remain very few digital savings, insurance and loan products available that can support micro-enterprise growth (Rutherford and Chatterjee, 2019).

A similar story can be found other ASEAN and SAARC developing countries. For example, Nepal nationals working abroad send significant amounts of money back to

8 In terms of the weighted regional statistics men and women in the ASEAN region have an equal access of 32 percent. In the SAARC region, 20 percent of the women have access to digital finance compared to 35 percent for men.

Figure 11 Rate of Youth Mobile Phone Ownership versus Rate of Youth Mobile Money Account Holders in ASEAN and SAARC Countries, 2017



Source: Global Findex Survey, 2017

their families in Nepal. Despite high levels of smartphone use and certain advantages that come with using digital platforms, these remittances are not made via mobile money. Indeed, while international remittances constituted 31 percent of Nepal's GDP in 2016, only 0.3 percent of the adult population had a mobile money account (Finscope, 2015).

In our qualitative survey of 64 youth-led enterprises, 82 percent of respondents cited convenience as the biggest advantage in using digital finance solutions, followed by the ability to make transactions remotely, the reduction in risks associated with handling cash, and the lowering of transaction costs.

The survey also revealed existing barriers to accessing digital finance for youth entrepreneurs. For example, one entrepreneur from Myanmar mentioned the lack of digital platforms for the management of online payments. Some of the respondents mentioned barriers to accessing even conventional digital finance services because of high costs, such as debit cards in Indonesia, internet subscriptions in the Philippines and receiving remittances digitally in Mongolia. Overall, the respondents showed interest in implementing digital finance but felt they need guidance in understanding what to use and how to use it. It can be a challenge for young entrepreneurs to learn about and adopt the most appropriate digital financial services for their business.

05

FINTECH AND DIGITAL FINANCE SOLUTIONS TO IMPROVE YOUTH'S FINANCIAL INCLUSION AND CAPABILITY

There is need to link digital payments to other financial services such as savings, credit and international remittances; one way of doing this is by linking youth to additional digital business solutions and platforms. Furthermore, financial services need to be tailored differently between growth-oriented businesses, which are generally run by entrepreneurs with higher levels of income and education, and necessity-driven businesses, which are generally run by lower-income people with lower levels of financial literacy.

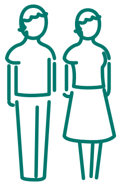
RECOMMENDATIONS FOR FINANCIAL SERVICE PROVIDERS

The rapid growth in access to digital devices, the internet and digital finance, generates new opportunities to link digital finance and digital business platforms for young entrepreneurs in ASEAN and SAARC developing countries. New business models are emerging through the rise of financial technology, or 'fintech,' that can accelerate rates of financial inclusion and entrepreneurship for youth in these regions. Youth-owned enterprises seem to be increasingly adopting a number of digital finance and business solutions.

The following is a set of digital finance and fintech solutions that have been effective in improving rates of youth entrepreneurship and financial inclusion and that can be replicated in other Asian developing countries.

Alternative credit scoring for young entrepreneurs lacking credit history: Big data analytics is being applied to improve customer screening, product selection and risk management of young entrepreneurs, who often lack collateral and credit history. Such scoring solutions use multiple data sources, including bank data and information from credit bureaux; and supplement this with information generated through mobile phones, IP addresses, ATM points, Facebook accounts and various other available information.

For example, JULO (financial service provider), a UNCDF partner in Indonesia, launched a loan product in 2018 specifically for female micro-entrepreneurs, using its existing app and tailoring its proprietary, data-driven credit scoring algorithm to micro-entrepreneurs to offer loans of US$300-500. Alternative credit scoring can reduce lending risk by accurately scoring youth talent and entrepreneurial capability, and also reduce collateral requirements and the need for prior use of formal financial services. This in turn increases youth entrepreneurs' ability to access formal credit, and thus creates a pathway for youth entrepreneurs to enter the formal financial system. Somewhat similar pilots are ongoing in Guinea and The Gambia, where alternative credit scoring that looks at young peoples' character, their entrepreneurial potential, their abilities to successfully undertake and manage a business project and willingness to repay can help expand their access to financial services.[9]



Gender is a particularly important factor. Some countries in Asia are experiencing a widening rather than a closing of the gender gap with reference to use of digital payment services, even among youth.

Mobile wallets and digital banking services tailored for Millennials:

As young people in South Asia and South-East Asia increasingly use digital financial services, financial service providers need to design business solutions tailored to their needs, both as individuals and as business owners. Such tailored solutions should include convenient access to low-cost digital savings accounts, payments, insurance and loans, and should take into account type of enterprise, educational background, digital and financial literacy levels, and gender.

Gender is a particularly important factor. Some countries in Asia are experiencing a widening rather than a closing of the gender gap with reference to use of digital payment services, even among youth. In response, LienVietPostBank (LVPB) in Viet Nam developed the Vi Viet e-Wallet in partnership with UNCDF. It provides a simple and convenient savings wallet that can be accessed via a smartphone app, allowing clients to access a wide variety of financial products, including low-cost savings accounts, micro-loans and bill payments.[10] LVPB started the marketing of its product initially at universities as well as through the Viet Nam Women's Union, creating a distribution channel specifically for youth and women. There is a rapid growth in digital finance services for both young men and women in Viet Nam.

In Senegal, UNCDF supported the implementation of micro-franchisor network of kiosks that offer training and mentoring and connect youth entrepreneurs as agents for digital financial services with companies, for example as mobile and money transfer operators.

Business funding online platforms:

Crowdfunding, person-to-person (P2P) and venture capital financiers have opened new channels for young entrepreneurs to access available funding for their businesses, and fintechs have played a key role in facilitating this shift. Peer-to-peer lending platforms directly connect MSMEs looking for finance with a crowd of investors. Such platforms automate the screening of each business listed on the platform and facilitate the financial agreement between the business and investors, charging a percentage of the amount loaned as a fee. In addition, these platforms have a bidding system that allows the MSME to choose the lowest interest rate offered by potential investors. Other fintech

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9 Other examples of organizations driving alternative credit scoring include Lenddo, Entrepreneurial Finance Lab (EFL), Ant Financial, Bitbond, Confirmu, Dianrong and Ftcash.

10 Examples of mobile wallets include Wing Money, Wave Money Myanmar, MyPay, Mycash Online, Paykey and RedDot.

firms also combine peer-to-peer platforms with the digitization of invoice financing. This represents another means by which cash-poor MSMEs can access the capital they need to grow.[11] Incubation programs that offers start-up entrepreneurs a mix of finance and mentoring, form another solution.

Linking digital platforms with digital financial services:

UNCDF has been working on the gig-economy in Malaysia with 18 start-ups that are creating and refining products and services that help particularly low- and moderate - income people to improve their financial health. *GoGet* is one such example, it runs an on-demand digital workforce platform that helps connect in particular young people who need specific jobs to a network of verified workers, called "GoGetters". Tasks that GoGetters could do may include promoting and organizing events, moving storage and housing, food delivery and shopping. Through an innovation hub and customer research the start-up spotted the need for these gig economy workers to set up financial health related products through its platform. For example, by partnering with Pod, a FinTech start-up, it started to offer savings products that allowed users to increase their monthly savings. The company is also exploring other financial products such as micro-insurance and pension to provide more financial security for GoGetters.[12] This examples shows that digital platforms can offer a wide variety of services thereby digitally connecting the financial and job market sectors.

Digital financial literacy and capability:

As secondary and tertiary educated youth in ASEAN and SAARC are adopting the use of digital finance at a much faster rate than primary educated youth, it has become even more important to improve access to digital finance for the latter group. It is vital to improve financial and digital literacy to ensure no one is left behind in the digital age. Indeed, many parties have an interest in increasing digital financial literacy, not least fintechs, which have an inherent interest in the proper use of their services. For example, UNCDF piloted a digital financial literacy app as well as financial literacy learning modules in Myanmar using chatbots and e-learning. Another example is Finance Trust Bank in Uganda, which implemented an education commitment savings account targeting adolescent girls to help youth set their own savings goals. The education saving account was also combined with reproductive health and financial literacy modules.[13]

It is vital to improve financial and digital literacy to ensure no one is left behind in the digital age.

In Africa, UNCDF has supported several FSPs in piloting a 'critical minimum approach' developed by Reach Global. This approach provides youth with three half-hour sessions allowing them to internalize and effectively nudge a culture of building financial capabilities. It also allows more youth to be trained within a shorter amount of time and limits the costs associated with providing financial literacy

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11 Beehive and Funding Circle are examples of P2P platforms.

12 See more information on : https://www.uncdf.org/article/4628/goget-a-start-up-in-malaysia-shares-its-b40-challenge-experience.

13 Another interesting example is commitment savings or 'round-up' apps for youth that diverts the change from everyday purchases and deposits it into a savings account or towards paying down debt. This kind of digital finance app not only makes it easy for people to monitor their transactions, but it also encourages savings on a day-to-day basis.

while streamlining the key messages to be delivered in a simple yet effect manner. 700,000 youth have received the training across the continent.

Children's financial education has become equally important in the digital era. There are several digital financial literacy tools tailored to children, including mobile wallets and digital piggy banks that also offer educational opportunities for children (such as Ernit and Bankaroo); Cambodia's Money Tree delivers online movies for children that educate them about digital finance. Young role models can also help children achieve financial literacy. Kaede Takenaka is a young entrepreneur in Thailand who is the co-founder and CEO of KidLetCoin, a blockchain startup that enables kids to earn KID coins for chores, or for reaching new learning goals in reading and math. She is only 10 years old and started her company with her mother with the goal of helping children learn about cryptocurrencies[14]

Advancing youth social enterprise financing:

Social businesses are increasingly capturing the attention of youth in South and South-East Asia (Yunus, 2007; Lehner, 2012; Gravesteijn, 2014). Our online survey demonstrated interesting examples of how social businesses leveraged digital solutions to scale education, health and enterprise growth solutions. Examples varied and included companies that offer online sign language interpretation for deaf people, online marketplaces that match students with teachers, and health care monitoring apps that can link users to health care providers. Moreover, there are a number of crowdfunding platforms that are interested in funding social business ideas. The availability of big data in combination with cost-effective data collection and analysis techniques opens new frontiers for measuring SDG outcomes and measuring SDG outcomes in the markets (e.g. Collins, Larson et al., 2018). An example is the use of mobile phone surveys and other lean data techniques to measure SDG outcomes of both for profit and social businesses. Such measurements allow businesses to better measure social and environmental returns on investments related to SDG achievement. There is a need to replicate and pilot such viable social business solutions through innovation hubs and accelerators.

The availability of big data in combination with cost-effective data collection and analysis techniques opens new frontiers for measuring SDG outcomes

RECOMMENDATIONS FOR POLICYMAKERS TO ENHANCE FINANCIAL INCLUSION AND ADDRESS THE 'DIGITAL DIVIDE'

Policymakers and regulators have vital roles to play in proactively shaping policy and regulatory frameworks to enhance young people's access to financial services. Targeted policy measures are required to address digital divides between and within countries in ASEAN and SAARC to ensure equitable access and that the most vulnerable groups are not left behind. In addition, policymakers have a critical role to play in mitigating the effects of the resulting digital business solutions generated through entrepreneurship on exacerbating inequalities.

Policymakers must take proactive measures to close gaps both between and within economies across ASEAN and SAARC in terms of young people's access to digital financial services. As shown in the analysis above, gaps persist in many countries

14 https://thefinanser.com/2019/07/the-10-year-old-who-runs-a-blockchain-company.html/

between young men and young women, between primary educated and secondary or tertiary educated youth, and between urban and rural youth in terms of access to financial services. The data in this paper suggests that less educated youth also have a hard time catching up in the digital era.

To address these gaps, a suite of complementary policy measures is required to enhance financial and digital literacy and bring down costs and other barriers to accessing financial services. Development partners such as UNCDF and UNDP have key roles to play in supporting policymakers to reduce financial inclusion gaps both within and between countries. Key recommendations include:

Collect demand and supply side data on the financing of youth-led micro and small enterprises for evidence-based policy making:

Collection and use of disaggregated data will help policymakers and financial service providers (FSPs) to design and deliver needs-based financial products and services for young people. Human-centred design approaches can help to ensure the design of appropriate service offerings e.g. for necessity-driven entrepreneurs versus opportunity-driven entrepreneurs.

Set ambitious and actionable targets for improving access to financial services among youth and young entrepreneurs under national financial inclusion strategies:

Under the Maya Declaration,[15] several Asian countries such as Malaysia, Bangladesh, Bhutan and Nepal have already committed to advancing youth financial inclusion in their national financial inclusion strategies. FSPs can be incentivised or required to serve a target proportion of young people among their client base or to expand access to rural areas.

Formulate policy and regulatory frameworks that are conducive to digital finance and fintech solutions that have been effective in improving youth financial inclusion (see above):

Solutions such as alternative credit scoring, mobile wallets, business funding online platforms (crowdfunding and person-to-person (P2P)) and many more have shown to be effective in enabling youth entrepreneurship. Policymakers and regulators should work with FSPs to create supportive policies and regulations to enable such innovation in available financial services, while protecting consumers. Complementary policy measures and investments are also required to expand network infrastructure to enable and reduce the cost of access to digital financial products in rural and more isolated areas. Policymakers should be forward-looking in considering the potential benefits and risks of unconventional technologies. For example, the use of non-traditional data, such as social media, is being explored to widen access to finance and credit. Similarly, the application of blockchain to property registries could potentially give people access to titles on which they could secure financing.

15 The Alliance for Financial Inclusion's (AFI) Maya Declaration is the first global and measurable set of commitments by developing and emerging country policymakers to unlock the economic and social potential of the 2.5 billion poorest people through greater financial inclusion.

Address gender barriers to entrepreneurship:

Particularly in South Asia, young women are generally less able to take advantage of digital financial products as they generally have lower access to the internet to men[16] and are also underrepresented in STEM-related careers. However, digital entrepreneurship could have pro-female effects because entry costs are lower thanks to low-cost software and widening internet access. This could tackle a structural factor limiting women's entrepreneurship: their more limited ability to access capital. Policymakers need to address barriers to women's access to technology and representation in STEM and ensure that new digital technologies do not further exacerbate gender inequalities.

Encourage partnerships between banks and non-financial institutions:

Such as telecom companies, education institutions and youth-facing organisations to improve young people's financial literacy and awareness of digital banking services and address the digital divide. Financial education partnerships – with a particular focus on more marginalised groups – can help to improve financial inclusion. Incorporating financial literacy, basic accounting, and business education into secondary school curricula can also help to build young people's financial capabilities (UNCDF, 2015).

Ensure availability of alternative services for those left behind:

Even while taking measures to expand digital access and literacy, policymakers should concurrently promote financial inclusion strategies for those who currently lack equal access to digital technologies. This will vary in different contexts – but could include persons with disabilities, geographically isolated, Indigenous, internally displaced, and young women who lack access to capital or decision-making authority. Measures could include promoting expansion of physical bank branches in rural areas, beyond relying on digital technologies alone. In addition there is need to avoid a 'digital divide' and enhance inclusion in access to digital financial services. Policymakers have a vital role to play in mitigating the effects of digital technologies and business models themselves in exacerbating inequalities or eroding labour standards. While this is a broad and far-reaching topic, policymakers should consider digital business solutions in relation to this wider context.

Assess the impacts of digital business solutions on labour markets:

Digital platforms are reshaping labour markets through the 'gig' or 'on-demand' economy. Across the Asia-Pacific, on-demand tech startups are growing rapidly in a context of loose regulation, expanding smartphone access and increased access to digital finance. These startups use app-based platforms to connect freelance workers to buyers of services. On the one hand, the gig economy may create new livelihood opportunities. On the other hand, it may represent a lack of job security and safeguards. The gig workforce is sometimes labelled the "precariat", owing to the risk that self-employed gig workers' may experience decent work deficits of limited job stability, limited worker protection, union or trade association protection, and

16 "The Inclusive Internet Index", Economist Intelligence Unit. Available at: https://theinclusiveinternet.eiu.com/

limited social benefits. Stress, over-work, and isolation may also affect gig workers. Policymakers and regulators across Asia-Pacific should assess working conditions for gig workers and develop appropriate regulatory or social protection responses to ensure that workers receive fair compensation and protections.

Assess the potential and risks of business models in the context of the 4th Industrial Revolution:

Technological innovations such as machine learning and automation are impacting the types of jobs created and lost across countries and the way data is collected, governed and used. Many young entrepreneurs engaging in the digital economy across Asia-Pacific are looking to harness the efficiency and productivity benefits of these technologies. It is important that policymakers in partnership with civil society carefully assess the impacts of these technologies, including labour market effects and ethical considerations.

REFERENCES

Byrne, D. M., Sichel, D.E. and Aizcorbe, A. (2019). Getting Smart About Phones: New Price Indexes and the Allocation of Spending Between Devices and Services Plans in Personal Consumption Expenditures. Finance and Economics Discussion Series 2019-012. Available from: https://www.federalreserve.gov/econres/feds/files/2019012pap.pdf

CB Insights (2018). Global Fintech Report Q3 2018. Available from: https://www.cbinsights.com/research/report/fintech-trends-q3-2018/

Child & Youth Finance International (2016). Financial inclusion for Children and Youth. Available from: https://youtheconomicopportunities.org/resource/8472/financial-inclusion-children-and-youth

Collins, Larson et al (2018) Pathways to a better life. The Intricate Role of Digital Finance in Reaching the Sustainable Development Goals. https://impactpathways.azurewebsites.net/pfip-focus-note-1.pdf and https://impactpathways.azurewebsites.net/

Ebuoma, Gravesteijn, Rutherford (Dec 2018) Mobile money behaviour in Bangladesh : Taking the National and Local Perspectives: https://spark.adobe.com/page/EXU0ivlUb1eJQ/?red=a

FinScope (2015). Results from FinScope consumer survey Nepal 2015. Available from: https://finmark.org.za/

Global Entrepreneurship Monitor (2012). Results from Global Entrepreneurship Monitor survey 2012. Available from: https://www.gemconsortium.org/data/sets?id=aps

Global Entrepreneurship Monitor (2013). Results from Global Entrepreneurship Monitor survey 2013. Available from: https://www.gemconsortium.org/data/sets?id=aps

Global Entrepreneurship Monitor (2014). Results from Global Entrepreneurship Monitor survey 2014. Available from: https://www.gemconsortium.org/data/sets?id=aps

Global Entrepreneurship Monitor (2015). Results from Global Entrepreneurship Monitor survey 2015. Available from: https://www.gemconsortium.org/data/sets?id=aps

Global Entrepreneurship Monitor (2019). GEM 2018/19 Global Report. Available from: https://www.gemconsortium.org/report

GSMA (2019). The Mobile Economy. Available from: https://www.gsma.com/r/mobileeconomy/

International Finance Corporation (2017). MSME Finance Gap. Assessment of the Shortfalls and Opportunities in Financing Micro, Small and Medium Enterprises in Emerging Markets. Available from: https://www.smefinanceforum.org/sites/default/files/Data%20Sites%20downloads/MSME%20Report.pdf

Kilara, T., Magnoni, B. and Zimmerman, E. (2014). The Business Case for Youth Savings: A Framework. Focus Note 96. Washington, DC.: CGAP. Available from: https://www.cgap.org/sites/default/files/FocusNote-Business-Case-for-Youth-Savings-A-Framework-Jul-2014.pdf

McKinsey Global institute (2016). Digital Finance for All: Powering Inclusive Growth in Emerging Economies. Available from: https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/Employment%20and%20Growth/How%20digital%20finance%20could%20boost%20growth%20in%20emerging%20economies/MG-Digital-Finance-For-All-Full-report-September-2016.ashx

Rutherford and Chatterjee (Jan 2019). Micro-enterprises and Occupational Hazards : Why do poor people settle for low return employment https://spark.adobe.com/page/AcroZ6ViN5cuD/?red=a

The World Bank (2016). Digital Dividends. Available from: http://documents.worldbank.org/curated/en/896971468194972881/pdf/102725-PUB-Replacement-PUBLIC.pdf

The World Bank (2016). Results from Enterprise Surveys 2016. Available from: https://www.enterprisesurveys.org/data/survey-datasets

The World Bank (2018). The Global Findex Database 2017. Available from: https://globalfindex.worldbank.org/

The World Bank (2018). World Bank Doing Business 2018. Reforming to Create Jobs. Available from: http://www.doingbusiness.org/content/dam/doingBusiness/media/Annual-Reports/English/DB2018-Full-Report.pdf

The World Bank (2018). World Development Indicators database. Available from: https://databank.worldbank.org/source/world-development-indicators

UNCDF (2018). Landscape Assessment of Retail Micro-Merchants in Bangladesh. Available from: http://www.uncdf.org/download/file/127/7176/111018-mmla-research-briefpdf

UNCDF (2018) Micro-Merchant Research Into Action Series : Landscape Assessment of Retail Micro-Merchants in Bangladesh https://www.uncdf.org/article/3986/micro-merchant-research-into-action-series-landscape-assessment-of-retail-micro-merchants-in-bangladesh

UNCDF (2018). Youth Entrepreneurship and Financial Inclusion: Outlook for ASEAN and SAARC. Available from: https://www.undp.org/content/dam/rbap/docs/Research%20&%20Publications/democratic_governance/UNDP-UNCDF-2018-Youth-Entrepreneurship-and-Financial-Inclusion-ASEAN-SAARC.pdf

UNDP (2017). "Technological Change and the Future of Jobs. Harnessing the Positive Potential of Technology for an Inclusive Future of Jobs. Policy Implications & Recommendations for Policymakers" UNDP Seoul Policy Centre. https://www.undp.org/content/dam/uspc/docs/Technological%20Change%20and%20the%20Future%20of%20Jobs.pdf

United States Department of Labor (2015). Long-term price trends for computers, TVs, and related items. Available from: https://www.bls.gov/opub/ted/2015/long-term-price-trends-for-computers-tvs-and-related-items.htm

Watanabe, N., Nakajima, R., and Ida, T. (2010). Quality-Adjusted Prices of Japanese Mobile Phone Handsets and Carriers' Strategies, Review of Industrial Organization, pp. 391-412. Available from: https://0-search-proquest-com.wam.city.ac.uk/docview/747986215?pq-origsite=summon

APPENDIX

ANNEX 1 SURVEY SAMPLE COMPOSITION

Between January 2019 and March 2019, UNCDF and UNDP and Citi Foundation's Youth Co:Lab initiative launched a small-scale internet survey on digital solutions and youth entrepreneurship. The survey aimed to gain a deeper understanding of the potential benefits that using digital financial and non-financial solutions can produce for businesses, especially those led by individuals 35 or younger. It was distributed in Asia through three primary channels: the Youth Co:Lab entrepreneurial network, Facebook and various educational institutions. The survey covered respondents from 10 ASEAN and SAARC countries, of which results are presented here for 64 entrepreneurs who have an active business.

The survey sample included a strong variety of different social enterprises working in sectors varying from education to trade, retail and financial technology start-ups. The outcomes are based on the responses of 64 active entrepreneurs in 12 countries in the ASEAN and SAARC region, most of whom had completed a tertiary level of education and may be described as innovation-driven entrepreneurs as opposed to necessity driven.

ANNEX 2 ADDITIONAL FINDEX INSIGHTS

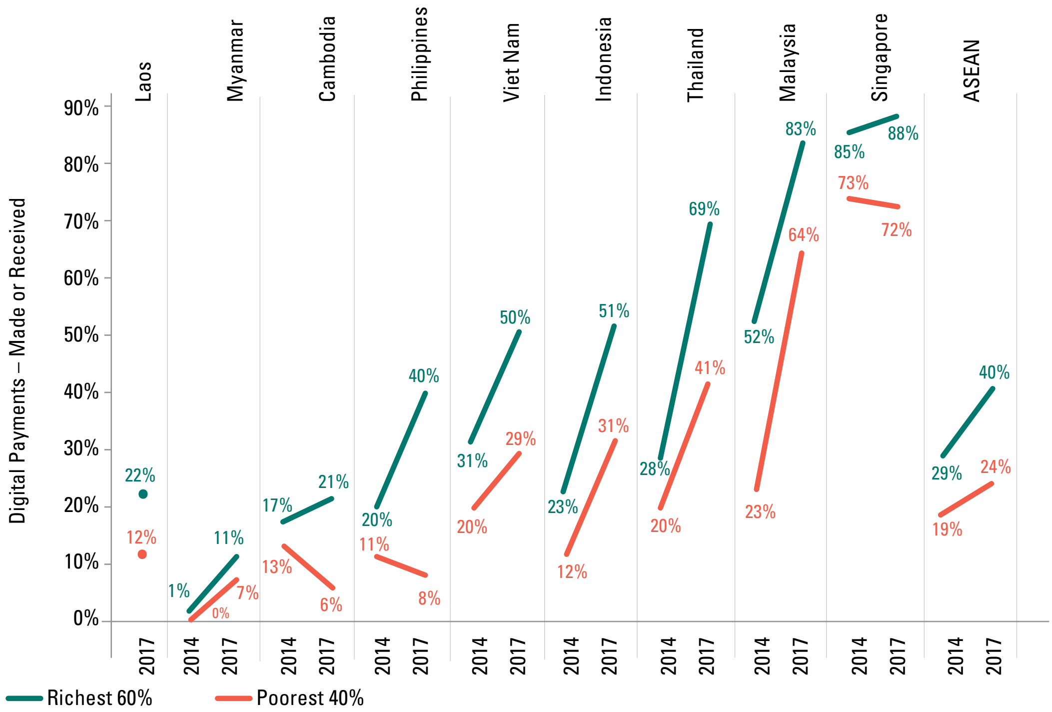
Table 2 Access to one Financial Services by Youth and Adults in ASEAN and SAARC Countries, 2017

ASEAN + SAARC	YOUNG ADULTS	OLDER ADULTS
Afghanistan	11%	22%
Bangladesh	46%	60%
Cambodia	35%	50%
India	73%	84%
Indonesia	51%	57%
Lao PDR	31%	41%
Malaysia	90%	89%
Myanmar	17%	46%
Nepal	44%	55%
Pakistan	18%	29%
Phillippines	31%	47%
Singapore	98%	98%
Sri Lanka	80%	76%
Thailand	78%	87%
Viet Nam	51%	50%

Source: Global Findex Survey 2017

**access to one financial services includes either access to either an account, savings, credit or payment.*

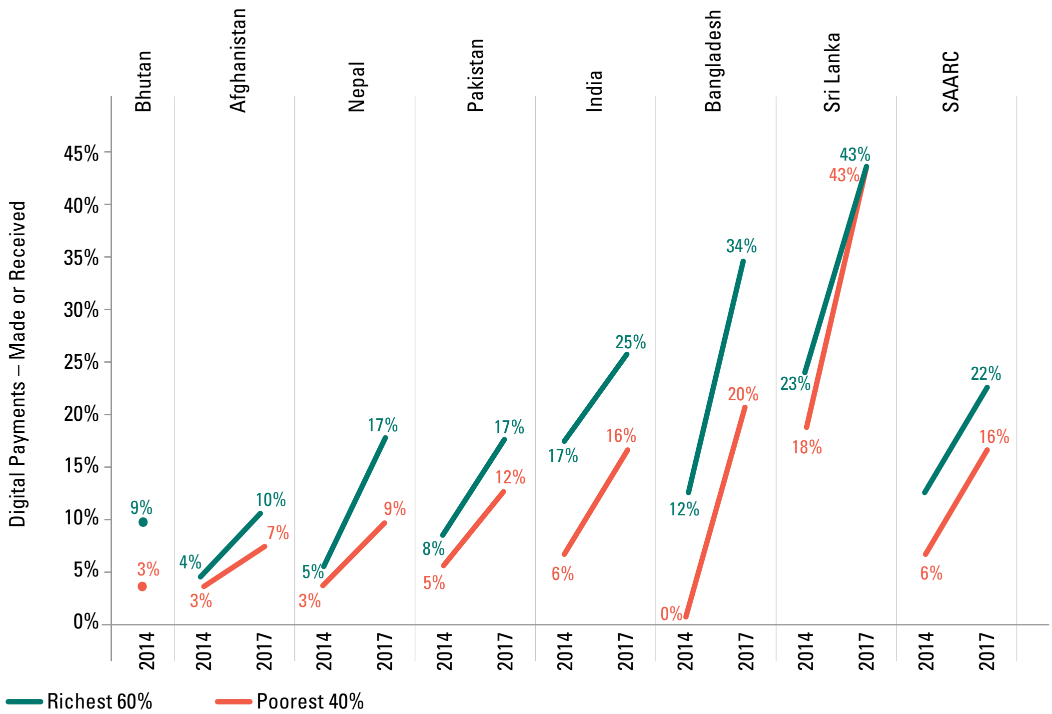
Figure 12 ASEAN Youth Rate of Access to Digital Payments, by Income Level



Source: Findex Survey, 2014-17.

Note: Total surveyed are 3,416 youth, broken down between the poorest 40 percent (1,170) and the richest 60 percent (1,976). For some countries sample size may be low as on average for 2017 per country the sample size is around 199 youth.

Figure 13 SAARC Youth Rate of Access to Digital Payments, by Income Level



Source: Findex Survey, 2014-2017.

Note: Total surveyed is 4,072 youth, broken down between the poorest 40 percent (1,501) and richest 60 percent (2,562). For the separate countries the sample size among youth in 2017 were approx. 328 per country.

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