



Digital Jobs for Youth: Young Women in the Digital Economy

Executive Summary

Solutions for Youth Employment

September 2018



Co-authors:



Case Study Contributors:



Financial Support Provided by:



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SEPTEMBER 2018

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Attribution: Please cite the work as follows: Solutions for Youth Employment (S4YE). 2018. “Digital Jobs for Youth: Young Women in the Digital Economy.” Washington, DC: World Bank Group.

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Acknowledgements

This report was a collaborative effort of S4YE members led by Danielle Robinson (Gender & Digital Jobs Specialist, S4YE Secretariat) under the direction of Namita Datta (Coalition Manager, S4YE Secretariat). Report authors also include: Emily Massey, Tshgofatso Kgasago and Mishkah Jakoet (Genesis Analytics, funded by The Rockefeller Foundation); Peter Glick, Diana Gehlhaus Carew and Ifeanyi Edochie (RAND Corporation); and Delores McLaughlin and Andrew Small (Plan International). The following S4YE Secretariat team members led several components of the report: Branka Minic (Digital Jobs Advisor, S4YE Secretariat), Aude Schoentgen, Prachi Ganu and Utpala Menon.

S4YE is grateful to current Chair of the Board of Directors, Mamadou Biteye (Managing Director, Africa Regional Office, The Rockefeller Foundation) for strategically guiding the focus of this report, and sharing learning from The Rockefeller Foundation's Digital Jobs for Africa initiative. The authors also thank Alvaro Gonzalez (Principal Economist, Jobs Group, World Bank) for his review and feedback.

The authors received thoughtful comments from several peer reviewers, including Alicia Hammond (Gender Specialist, World Bank), Natalija Gelvanovska-Garcia (Regulatory Specialist, World Bank), Gabriela Pérez-Hobrecker (Manager, Accenture Strategy), Susan Schorr (Head, Digital Inclusion Division, International Telecommunication Union) and Niall O'Higgins (Senior Researcher, International Labour Organization).

Siddhartha Raja (Senior ICT Policy Specialist, World Bank) and Samantha Watson (Operations Officer, World Bank) provided early research and feedback. Online consultations were led by Sonia Madhvani (Program Officer, World Bank) and Steve Commins (Consultant, World Bank). Adnan Siddiqi (Communications Specialist, S4YE Secretariat) provided valuable editorial and design support. The authors also thank Ayanna Samuels (Consultant, World Bank), Zhenia Viatchaninova Dalphond (Consultant, World Bank), and Shan Rehman (Social Development Specialist, World Bank) for their contributions.

Several members of the S4YE coalition contributed case studies for this report, including Accenture, the Government of Germany's Federal Ministry for Economic Cooperation and Development (BMZ), Microsoft, Plan International, The Rockefeller Foundation, and the World Bank. The US Agency for International Development (USAID) also provided a case study. The authors thank the program staff and youth beneficiaries who graciously shared information on their experiences.

The authors are grateful to the youth beneficiaries and program staff of Digital Data Divide, Educate!, Giraal Africa, Google's Womenwill Initiative, Impact Partner, Laboratoria, My Green World, Samasource Digital Basics, Uwazi, and the World Bank for providing valuable insights during the online consultations. The authors also thank Accenture, Educate!, Mastercard Foundation, International Youth Foundation, Restless Development, and the World Bank for connecting us with these organizations.

The contributions of Peter Glick, Diana Carew and Ifeanyi Edochie were made possible through the support of the Pardee Initiative for Global Human Progress at the Pardee RAND Graduate School. S4YE is grateful to the Mastercard Foundation for supporting Branka Minic's contribution to this report. Finally, the publication of this report would not have been possible without the generosity of the World Bank's Jobs Umbrella Trust Fund, which is supported by the Department for International Development/UK AID, and the Governments of Norway and Germany, the Austrian Development Agency, and the Swedish International Development Cooperation Agency. The authors are grateful for their continued support.

1. Overview

Solutions for Youth Employment (S4YE) is a multi-stakeholder coalition among public sector, private sector, and civil society actors that aims to provide leadership and resources for catalytic action to increase the number of young people engaged in productive work. The S4YE coalition includes the World Bank, Accenture, The Rockefeller Foundation, Mastercard Foundation, Microsoft, Plan International, International Youth Foundation (IYF), Youth Business International (YBI), RAND Corporation, the International Labour Organization (ILO), the Governments of Norway, Germany, and the UN Envoy for Youth. More partners are likely to join soon.

S4YE's mission is to provide leadership and catalytic action and mobilize efforts to significantly increase the number of young people engaged in productive work by 2030, by developing innovative solutions to youth employment through practical research and active engagement with public and private stakeholders to enable solutions at scale. S4YE combines a pragmatic approach to identifying solutions for youth employment with an evidence-based advocacy platform to increase access to productive work for young people.

The ***Digital Jobs for Youth: Young Women in the Digital Economy*** flagship report is intended to provide operational recommendations for the design and implementation of future supply- and demand-side digital jobs interventions for youth, especially young women. The report applies an integrated approach to youth employment¹ by reviewing supply- and demand-side projects that connect youth with digital job opportunities. Using a new typology of digital jobs in the public- and private-sector, the report draws on real-world experiences of S4YE partners, and provides operational recommendations on designing and implementing gender-inclusive digital jobs interventions for youth.

Digital Jobs for Youth extracts insights from 19 case studies based on past and ongoing employment programs that connect youth with digital job opportunities. After reviewing program findings with youth beneficiaries, entrepreneurs, digital jobs program staff, and firms hiring youth, the report identifies 8 main challenges practitioners experience and present 20 high-potential strategies to overcome them.

This report was a collaborative effort by S4YE partners. Lead authors represented The Rockefeller Foundation, Plan International, RAND Corporation and the S4YE Secretariat. S4YE partners also prepared case studies based on their experiences implementing or supporting digital jobs programs, including Accenture, German Federal Ministry for Economic Cooperation and Development (BMZ), Microsoft, Plan International, The Rockefeller Foundation, United States Agency for International Development (USAID) and the World Bank Group.

¹ Datta, Assy, Buba, Watson et al. 2018.

2. Youth in the Digital Economy

High youth unemployment rates, youth NEET rates, and the high incidence of working poverty among youth have made youth employment a priority on the global agenda. The ILO projects that approximately 509 million youth aged 15-24 will be in the global labor force as of 2019.² However, the global youth labor force is shrinking³ while a large share of youth are not in employment, education or training (NEET).⁴ Approximately 65 million youth aged 15-24 years were unemployed in 2017. ILO estimated that approximately 22% of young people were NEETs in 2017.⁵ Young women are more likely to fall in this category as the female youth NEET rate was estimated at 34.4% in comparison to the estimated male youth NEET rate of slightly less than 10%. Approximately 66 million young workers, or 17% of employed youth, were living below the extreme poverty threshold in 2017.

Digital technology is transforming economies and societies in profound ways.⁶ Improvements in communications have revolutionized the global organization of the production of goods and services. Technology has extended global value chains to link various stages of manufacturing across multiple countries. The ability to buy and sell goods and services online has globalized marketplaces.

Traditional jobs are being transformed, and new forms of work are being created. Large companies are increasingly contracting smaller firms in other countries to perform entire business processes and functions. In 2013, an estimated 4.2 million individuals worldwide were engaged in virtual freelance work for clients through online platforms such as [Upwork](#) (formerly elance-odesk) and [Freelancer](#). A growing number of workers are also engaging in *microwork*, whereby people work online to complete a series of small, less skill-intensive tasks through platforms such as [Amazon Mechanical Turk](#) (MTurk) and [Figure Eight](#) (formerly CrowdFlower).

This rapidly changing world requires a new set of skills for young workers. It is estimated that the number of roles requiring digital skills will grow by 12% by 2024. As firms' production and employment needs continue to change rapidly, the youth labor supply needs to be able to rapidly adjust to meet demand. Notably, young workers must commit to lifelong learning, where they continue to acquire skills and knowledge in order to remain relevant in the labor market.⁷

² ILOSTAT, <http://www.ilo.org/ilostat/>.

³ For this report, "youth" generally refers to persons aged 15 to 35 years. However, different agencies and organizations utilize different definitions. For example, for statistical purposes, ILO defines youth as persons between the ages of 15 and 24 years (inclusive). Wherever possible, the differences will be highlighted.

⁴ The youth NEET rate provides a measure of young persons (aged 15-24) who are outside the educational system, not in training and not in employment as a percentage of the total youth population.

⁵ ILO 2017.

⁶ This report will not discuss in detail the changing nature of work as it is the subject of the World Bank's World Development Report 2019.

⁷ Accenture 2017.

3. Why Focus on Young Women?

Gender disparities persist in the digital economy. In 2017, the global labor force participation rate for young men aged 15-24 was 53.7% and was 37.1% for young women.⁸ The global proportion of women using the Internet is 12% lower than that of men.⁹ The Internet user gender gap is the largest in LDCs, increasing from 29.9% in 2013 to 32.9% in 2017.¹⁰ The largest gaps are in Asia & Pacific countries, the Arab States and Northern Africa where the Internet user gender gaps were 17.1%, 17.3% and 25.3%, respectively.¹¹ Economic and socio-cultural barriers contribute to the gender digital divide. Infrastructure gaps, high costs, lack of relevant content, and the prevalence of online harassment and violence targeting women also reinforce this digital gender divide.¹²

The gender digital divide limits the ability of girls and young women to participate in the digital economy to an equal extent as their male counterparts.¹³ Leading barriers to mobile ownership include cost, low literacy, low digital skills and safety and security concerns – all of which disproportionately affect women over men. In addition to those constraints, women are less likely to use mobile Internet because of knowledge gaps – women are less likely to know how to access the Internet from their phones, and many women believe that mobile Internet is simply not relevant to their lives

FIGURE 1 BARRIERS TO DIGITAL EMPLOYMENT FOR YOUNG WOMEN



Source: GSMA Connected Women 2015; World Bank 2016; World Bank 2018; GSMA Connected Women 2018.

⁸ ILO 2017.

⁹ ITU 2017. Internet penetration rates refer to the number of women/men using the Internet, as a percentage of the total respective population of women/men.

¹⁰ Ibid.

¹¹ Ibid.

¹² World Wide Web Foundation 2015; GSMA Connected Women 2015; GSMA Connected Women 2018.

¹³ GSMA Connected Women 2018.

While all youth face specific barriers to employment in digital jobs, young women tend to experience many of these barriers more acutely. Discriminatory policies and regulations can limit young women's ability to access financial resources necessary to pursue high education or start a business. Young women's unequal access to education has resulted in low levels of numeracy, literacy and digital fluency. Negative perceptions on women's use of ICTs, pursuit of STEM-related studies, and entrance into careers in tech, have contributed to a gender imbalance in the ICT workforce. As in the 'offline' economy, concern for safety can be a barrier preventing girls and women from entering and remaining in digital employment. When women do enter employment in the ICT sector, they often face barriers that limit their progression.

Digital jobs can increase young women's productivity, earnings, and financial independence.¹⁴ Jobs involving remote, online work offer flexibility that can help young women to overcome mobility constraints and combat restrictive gender norms. Digital jobs can also help reduce longstanding occupational segregation in various industries, including the ICT sector. As girls and young women develop digital skills, they will enjoy greater choice in their personal and professional lives, and access better-paid, better-quality jobs.

To increase women's participation in the digital economy, new program models must be developed to address women's specific needs. Programs intended to connect youth with digital jobs often fail to address women's constraints in accessing and using ICTs. Practitioners and policy-makers must adopt strategies that overcome these constraints to generate optimal employment outcomes for young women.

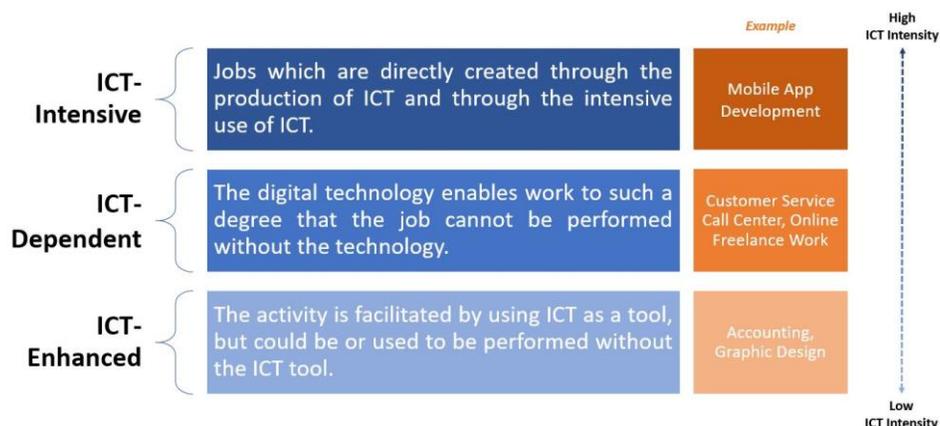
New youth employment programs must integrate digital skills training with enterprise promotion in the private sector. Most youth digital employment programs focus primarily on skills-building. While an emphasis on digital skills training programs is important, it is also critical to address the constraints limiting the growth of firms that will create new jobs that could adequately utilize these newly gained digital skills of the growing youth population. Youth employment programs must utilize an integrated approach to digital jobs to help young people fully leverage the potential benefits of the digital economy.

¹⁴ Broadband Commission for Sustainable Development 2017.

4. An Integrated Framework for Digital Jobs

Digital jobs exist across all industries, not just in the ICT sector. These jobs vary according to the degree to which they rely on digital technology. This report employs a nuanced categorization that distinguishes between three types of digital jobs: *ICT-intensive jobs* that are directly focused on ICTs; *ICT-dependent jobs* that are made possible by ICTs; and *ICT-enhanced jobs* that use digital technologies, but could be performed without ICTs.

FIGURE 2 TYPES OF DIGITAL WORK



Source: Adapted from World Bank 2013; OECD 2005.

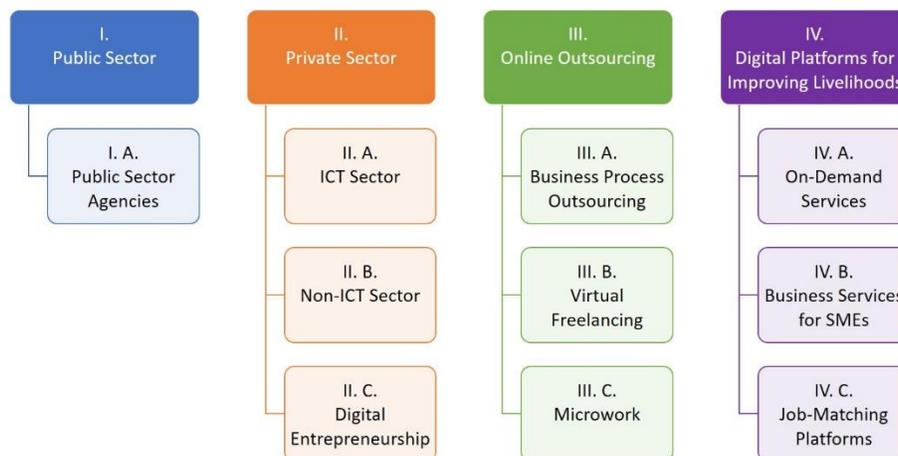
To stimulate youth digital employment, it is necessary to first identify the sectors of the economy where digital jobs are found. This report employs a typology of drivers of digital jobs to examine sectors that are sources of jobs that use ICTs to enable jobs or enhance livelihoods.

The digital jobs typology identifies four drivers of demand for digital jobs. These drivers are: (I) Public Sector; (II) Private Sector; (III) Online Outsourcing; and (IV) Digital Platforms for Improving Livelihoods.¹⁵ To enable sector-level analysis, these drivers are divided into subcategories:

- The public sector comprises of (I. A.) Public sector agencies.
- The private sector includes: (II. A.) Businesses in the ICT sector; (II. B.) Other businesses, ranging from retail to manufacturing to finance; and (II. C.) Digital entrepreneurs.
- Online outsourcing includes: (III. A.) Business process outsourcing (BPO); (III. B.) Virtual freelancing; and (III. C.) Microwork.
- Finally, the framework includes online platforms that have significant impacts on livelihoods: (IV. A.) On-demand services and the shared economy; (IV. B.) E-commerce websites and business services for SMEs; and (IV. C.) Online job-matching services.

¹⁵ While online outsourcing could be considered a sub-category of (II) *Private Sector*, the rapid development of online outsourcing activities allows it to be discussed as a category in itself.

FIGURE 3 DRIVERS OF DEMAND FOR DIGITAL JOBS



Source: Authors.

The typology of drivers of digital jobs presents a useful tool to map the degree to which digital jobs are accessible by different subgroups of youth within a specific context. Governments investing in digital jobs for youth must assess key constraints faced by the drivers of demand, while also considering the supply of workers to do those jobs.

By mapping the drivers of digital jobs, policymakers investing in youth employment programs can identify opportunities to make digital jobs more attainable by different youth populations. For example, if a policy-maker would like to focus on digital job creation for rural women with limited skills, then microwork opportunities might be one category with the highest potential economic and social benefits. On the other hand, if the policy challenge is to create quality jobs for unemployed or under-employed college-educated youth, then investing in digital entrepreneurship might hold the most potential. Finally, if stimulating agricultural productivity and promoting rural incomes is high on the policy agenda, policy-makers may find it valuable to support new solutions using digital platforms that focus on SMEs.¹⁶

¹⁶ The types of digital jobs discussed in the typology are not water tight compartments, and will likely need to be used in combination depending on characteristics of different sub groups of youth.

TABLE 1 TYPOLOGY OF DRIVERS OF DIGITAL JOBS*

Sector Classification	Definition	Examples	Type of Digital Work
I. PUBLIC SECTOR			
I. A. Public sector agencies	Regular operations and functions in government departments and agencies (including record keeping, billing, human resources); New e-public goods and e-governance using specialized software	E-public goods; Big data; E-governance; cyber security; IT maintenance; military intelligence; artificial intelligence; administrative (health, education, justice)	ICT-intensive; ICT-enhanced
II. PRIVATE SECTOR			
II. A. ICT sector	Services and manufacturing related to computer, telephone, broadband and audiovisual networks	Web development; network administration; virtual reality; cybersecurity; IoT; machine learning; blockchain technology	ICT-intensive
II. B. Non-ICT sectors	Any non-specialist IT jobs using digital tools such as word processing, spreadsheets, etc. Includes routine operations and specialized software applications	Billing, finance services; medical care records; business consultants; desktop publishing; in-house ICT services	ICT-intensive; ICT-dependent; ICT-enhanced
II. C. Digital entrepreneurship	Ventures using Internet, digital products or services or digital distribution channels, incl. cloud services	Application development; online education; web hosting; membership sites	ICT-intensive; ICT-dependent
III. ONLINE OUTSOURCING			
III. A. Business process outsourcing	Outsourcing of entire business processes to another country, incl. low-skill front office processes (e.g., customer service) and high-skill back office processing (billing, accounting, or medical diagnostics)	Call centers (e.g. in India, Philippines, China, South Africa, Kenya); Impact sourcing service providers (ISSPs); medical diagnostics (radiology)	ICT-dependent
III. B. Virtual Freelancing	Jobs involving complex tasks (translation, coding, web/graphic design, software development, technical writing), distributed via an online platform	Upwork; freelancer.com; 99designs	ICT-dependent
III. C. Microwork	Business processes are broken down into small tasks (e.g., data input, proof-reading, image tagging, and text transcription) which are then distributed to workers via an online platform.	MTurk, Figure Eight; ISSPs (e.g. Samasource, CloudFactory)	ICT-dependent
IV. DIGITAL PLATFORMS FOR IMPROVING LIVELIHOODS			
IV. A. On-Demand Services Platforms	Online on-demand services that require ICT	Ride hailing (e.g Lyft, Uber, Gojek); Food delivery (e.g Deliveroo, UberEats, Foodora)	ICT-dependent
	Online on-demand for traditional services facilitated by ICT	Babysitting; Home services (e.g. Taskrabbit); Home cleaning	ICT-enhanced
IV. B. Business Services for Farmers & SMEs	Online information services for farmers and small entrepreneurs, providing price and weather info; links to buyers; funding and technical services; online markets	For farmers: M-Farm (Kenya), ict4dev.ci; Lelapafund (Kenya) For SMEs: Alibaba, Etsy	ICT-enhanced
IV. C. Job-Matching Platforms	Online services matching of job seekers and employers; Online career and job counseling	SoukTel, Kazi Connect, Jobberman (Nigeria)	ICT-enhanced

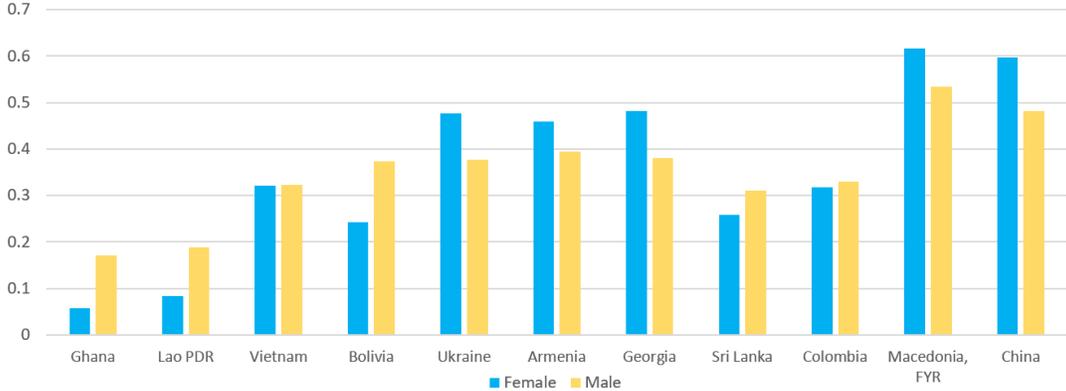
* This table is a condensed version of the complete typology which is laid out in the full report.

Using the digital jobs typology, it is also possible to map the level of digital skills required by youth to enter digital jobs. Digital skills exist on a continuum, ranging from basic to intermediate to advanced.¹⁷ These skills qualify youth for jobs in traditional sectors while also empowering them to thrive in emerging sectors and even launch their own businesses. As the nature of work continues to change, digital skills will become increasingly important for youth to engage in new forms of work, such as microwork and virtual freelancing, and participate in the gig economy and online job marketplaces.

Digital skills programs should carefully assess the type of demand that exists, and the types of jobs being created that would require those skills. The World Bank’s Skills Toward Employment and Productivity (STEP) Skills Measurement Program, conducted primarily in urban areas of 13 LMICs, permit a nuanced examination of the digital skills being used in a country’s labor market. Many workers in countries surveyed by STEP indicated that lack of ICT skills was a barrier to finding a job or earning higher income. Use of digital skills at work is more prevalent in the public than the private sector in almost all countries in the STEP sample. In LMICs, smaller firms are the least likely to adopt ICTs.

STEP surveys also reveal differences in the use of ICTs among female and male workers (see Figure 4). While similar shares of women and men use ICT at work, women are less likely to do work that uses advanced digital skills. These findings mirror patterns in advanced economies. Data for 22 OECD countries participating in the Survey of Adult Skills (PIAAC) indicate that similar shares of men and women use software at work, but men are more likely than women to be ICT specialists.¹⁸

FIGURE 4 SHARE OF WORKERS USING DIGITAL SKILLS BY GENDER, SELECTED COUNTRIES



Source: Calculations by S4YE team from STEPS Surveys
 Note: Urban areas only; Countries arranged in ascending order by per capital GDP, PPP (\$), 2016

¹⁷ ITU 2018.
¹⁸ OECD 2017.

Each driver of demand for digital jobs has distinct characteristics that create opportunities for youth. For example, many governments in LMICs are making significant investments to incorporate ICTs into their administrative functions and operations. Public sector agencies are also using ICTs to better provide information and services that affect citizens' livelihoods. These services not only improve productivity for existing workers, but are also creating new opportunities for work. Agricultural agencies are providing advice to farmers using ICTs, with far more reach than traditional in-person extension services. In Uganda, *Farmer's Friend* is a mobile application that not only provides information for smallholder farmers, but also creates community jobs in the form of data collection on local farms.

The private sector offers the greatest potential for ICTs to create and improve youth employment opportunities, both within and outside the ICT sector. The need for workers with digital skills is increasing across all sectors as more and more firms adopt new ICTs. Digital entrepreneurship may be especially important in countries where fiscal constraints limit the number of public sector jobs available, and slow economic growth limits the number of jobs being created by the formal private sector. Coding bootcamps, such as [AlMakinah](#) in Egypt, equip young women with the digital and soft skills necessary to find jobs in the private sector or even start their own companies.

Online outsourcing also provides advantages for vulnerable youth. BPO jobs in call centers go disproportionately to women compared with their share of employment in the broader local economy.¹⁹ E-lancing can help youth with disabilities who experience workplace discrimination that limits their opportunities for advancement. Microwork can be especially helpful for remote or vulnerable populations that face constraints to mobility and access to local employment. [Samasource](#) provides microwork opportunities in Kenya, Uganda, and India, and targets youth and women without formal work experience who are earning below a local wage.

Online platforms and the on-demand economy are also making it easier for youth to find new jobs, start their own businesses, access new markets, and develop their professional networks. Ride-hailing opportunities are emerging in LMICs, including services that feature exclusively female drivers and target security-conscious women riders. For example, LadyJek was launched in Indonesia in 2016 to provide a motorcycle ride-hailing service that is exclusively for women. Platforms such as [Mogul](#), [She Leads Africa](#) and [Enterprising Women](#) facilitate the sharing of experiences and information, and make it easier for female owners of SMEs to access management training and advice.²⁰

Table 2 provides a summary of sector-specific information for each of the drivers. For more information on each of the drivers of demand for digital jobs, please review Chapter 3 of the full report.

¹⁹ Holman, Batt and Holtgrewe 2007.

²⁰ Lee 2016.

TABLE 2 FEATURES, TRENDS & CHARACTERISTICS OF DRIVERS OF DEMAND FOR DIGITAL JOBS

Sector Classification	Features, Trends & Characteristics
I. PUBLIC SECTOR	
I. A. Public sector agencies	<ul style="list-style-type: none"> Many government agencies are experiencing a shortage of supply of ICT specialists, which is often driven by challenges in channeling youth – particularly young women – into STEM careers. Government jobs in developing countries are more likely to be ICT-intensive than jobs in the private sector. As digitization continues, the public sector will increase demand for workers with basic and advanced digital skills.
II. PRIVATE SECTOR	
II. A. ICT sector	<ul style="list-style-type: none"> On average, the ICT sector accounts for 1% of the workforce in LMICs. Approximately 1% of workers in LMICs are characterized as ICT specialists. For more advanced OECD economies, the share is 2-5%. Constraints to expansion of the ICT sector include a lack of enabling policies in the areas of regulation, cyber security, trade and competition, lack of skilled ICT specialists, and underdeveloped ICT infrastructure.
II. B. Non-ICT sectors	<ul style="list-style-type: none"> The share of workers using ICTs on the job is rising faster in developing countries than in developed ones. Digitalization is reallocating employment opportunities across non-ICT industries. Policies to motivate ICT adoption by companies across industries, and supporting worker skill-development to promote transitions into these industries, will continue to spur youth employment.
II. C. Digital entrepreneurship	<ul style="list-style-type: none"> Although they do not directly comprise a major source of employment in LMICs, innovations introduced by digital start-ups can also greatly enhance and create livelihoods for low-income individuals and for women. An enabling environment for digital startups includes favorable regulations governing entry into established industries, as well as access to finance.
III. ONLINE OUTSOURCING	
III. A. Business process outsourcing	<ul style="list-style-type: none"> The global BPO industry had revenues of \$US140 billion in 2016, and had annual growth of 4.4% over 2012-2016. Constraints to LMICs include lack of appropriate infrastructure in the form of reliable connectivity and power, physical facilities, and IT specialists to develop and manage software systems and communications.
III. B. Virtual Freelancing	<ul style="list-style-type: none"> The global market for online freelancing is large and growing at an estimated rate of 14% per year. English-speaking populations have a strong advantage in access to freelancing work, as most client companies are in English-speaking countries.
III. C. Microwork	<ul style="list-style-type: none"> Microwork is still a relatively small industry, where demand is dominated by large businesses. Impact sourcing has emerged in recent years as an approach to explicitly target online outsourcing opportunities to disadvantaged and vulnerable populations, including youth, women, and rural communities. Governments can stimulate domestic demand by connecting impact sourcing platforms and local firms.
IV. DIGITAL PLATFORMS FOR IMPROVING LIVELIHOODS	
IV. A. On-Demand Services Platforms	<ul style="list-style-type: none"> While the on-demand economy appears to be growing rapidly in LMICs, the market remains small. Despite the potential for job displacement and disruption, the sharing economy offers significant benefits for youth entering the labor-market for the first-time and/or who find it difficult to work in traditional jobs. Platforms such as MyDidi, which provide app-based domestic services, are reshaping predominantly female jobs.
IV. B. Business Services for Farmers & SMEs	<ul style="list-style-type: none"> E-commerce platforms create new jobs and help SMEs and micro-entrepreneurs to expand their global customer-base. It is estimated that Alibaba created over 36 million jobs in 2017. In agriculture, the use of mobile phones is allowing farmers to link to a wider pool of customers for their output and to obtain information about prices in distant markets. Large e-commerce platforms have been launched in several countries, including Flipkart and Snapdeal in India, Ozon in Russia, Jumia and Konga in Nigeria, and Takealot and Kalahari in South Africa.
IV. C. Job-Matching Platforms	<ul style="list-style-type: none"> Job-matching platforms are increasingly available online and via SMS, increasing access for disadvantaged youth. Online platforms for job-matching can serve similar roles as e-commerce sites, by connecting SMEs to a global customer base and allowing for payments to be processed online. Duma Works in Kenya and BabaJob in India are examples of job-matching platforms designed to assist low-skilled workers using text messaging.

5. Promising Practices for Gender-Inclusive Digital Jobs Programs for Youth

This report presents findings from 19 case studies, a literature review and online consultations with key youth employment stakeholders. The case studies are based on past and ongoing interventions—mostly implemented and/or supported by S4YE member organizations—that implemented a range of activities, including: training youth in digital literacy and entrepreneurship skills; connecting youth with digital job opportunities; utilizing digital platforms to connect youth with employers and access jobs in the shared economy; and providing support to firms/enterprises to increase their ability to employ youth in digital jobs.

FIGURE 5 LIST OF CASE STUDIES

Federal Ministry for Economic Cooperation and Development, Germany #eskills4girls Initiative Global	The Rockefeller Foundation African Centre for Women in ICT Kenya	World Bank Caribbean Mobile Innovation Project Barbados; Dominica; Jamaica; St. Kitts & Nevis; Trinidad & Tobago	The Rockefeller Foundation CloudFactory Kenya	USAID Compete Project – Young Professionals Program (YPP) West Bank & Gaza
The Rockefeller Foundation Digital Divide Data Kenya	World Bank Digital Jobs for KP Pakistan	Plan International Empowering Women through E-Governance Sri Lanka	The Rockefeller Foundation EOH South Africa	The Rockefeller Foundation Friends of the British Council Ghana
Accenture Girls Who Code USA	The Rockefeller Foundation Harambee South Africa	Microsoft Laboratoria Chile, Mexico, Peru	The Rockefeller Foundation Maharishi Institute South Africa	Plan International Saksham India
The Rockefeller Foundation Samasource Kenya	Accenture Training for the Future Argentina, Morocco, Tunisia	World Bank Women in Online Work (WoW) Pilot Kosovo	The Rockefeller Foundation The Youth Banner Kenya	

This report also draws upon examples of digital jobs programs, platforms and initiatives that are implemented and/or supported by organizations that are not members of the S4YE coalition. These insights supplement the findings of the case studies and demonstrate additional approaches to implementing gender-inclusive digital jobs program for youth. Finally, S4YE conducted qualitative interviews of beneficiaries, program staff and employers.²¹ The consultations sought to understand perspectives and experiences of young digital skill trainees and entrepreneurs; digital skills training implementers; and firms that hire young workers for digital jobs.

²¹ See Annex D – Online Consultations Report in the full report for more detail.

BOX 1**ONLINE CONSULTATIONS: KEY MESSAGES**

S4YE organized online consultations comprising of focus groups and one-on-one interviews to learn about the experiences of young digital skill trainees and entrepreneurs; digital skills training implementers; and firms that hire young workers for digital jobs. Insights on promising practices for gender-inclusive digital jobs programs for youth emerged across five main topic areas including **program design, program recruitment, program curriculum, beneficiary retention, and job search and placement.**

Within these topic areas, several cross-cutting themes were identified that affected the potential for success in each of these areas. These cross-cutting themes included: the role of **community partners** (public, private, community based) in recruitment and support; **central contextual factors** that shape women's access and opportunities, such as the overall economic situation within the country, as well as business expectations; **social norms**; and the importance of **soft skills.**

1. **Program design:** Training programs are matched to the target audience, which includes the trainees' and potential employers' needs. Digital trainings aim to link to business experiences in the country of operation. Many programs build local partnerships with government and CBOs to ensure the training is context specific.
2. **Program recruitment:** Training programs and firms utilize a range of options for reaching young women. Some work with CBOs to screen potential trainees and to accommodate social norms. Many programs and firms check the trainee's education level to ensure that trainees will be able to successfully complete the program.
3. **Program curriculum:** Training methods are designed to fit local needs, norms, and businesses. Programs adapt to the beneficiaries' levels of education. Programs focus on improving soft skills such as communication, team work, problem solving, and job search skills. Beneficiaries use these soft skills during 'hands on' projects.
4. **Beneficiary retention:** Some training programs provide additional support to the trainees such as childcare and female role models. Many beneficiaries could speak more openly to other women about issues such as health and family problems. Some programs have flexible schedules so that the women can attend the training.
5. **Job search and placement:** Training programs form partnerships with firms to provide greater opportunities for young women who have completed their programs. These firms give feedback to programs on how to improve the program. Depending on the local context, firms create diverse ways to recruit the women. Some training programs connect the trainees with female mentors to transition the women into employment.

For more in-depth insight, please see Annex D of the full report.

This report identifies challenges experienced during program design, implementation and evaluation, and provides examples of initial findings and lessons learned from digital jobs programs for youth. The discussion of the promising solutions and approaches being taken by digital jobs programs for youth is done in three parts, following the structure of S4YE’s Guidelines of Integrated Youth Employment Programs: understanding context and diagnosing constraints; supply-side interventions; and demand-side interventions.²²

FIGURE 6 PROMISING PRACTICES FOR DIGITAL JOBS PROGRAMS FOR YOUNG WOMEN

PHASE	CHALLENGES	APPROACHES
Context & Constraints	1 Navigating Shifts in Demand for Digital Skills	<ul style="list-style-type: none"> Assess Market Demand for Digital Skills
	2 Understanding Gendered Differences in Roles, Needs, Opportunities and Limitations	<ul style="list-style-type: none"> Conduct Context-Specific Gender Analysis
Supply-Side Interventions	3 Recruiting Young Women to Digital Jobs Programs	<ul style="list-style-type: none"> Utilize Mixed Recruitment Techniques Establish Program Centers in Safe and Accessible Locations Promote Early-Age Exposure to ICTs Provide Stipends, Accommodations & Other Incentives
	4 Retaining Young Women in Digital Jobs Programs	<ul style="list-style-type: none"> Design a Rigorous Screening Process Incorporate a Blended Approach to Training Delivery Implement On-the-Job Learning Work Schemes Provide Access to ICT Infrastructure and Devices
	5 Building Self-Confidence of Young Women	<ul style="list-style-type: none"> Support and Engage Women in Interactive Learning Experiences Improve Women’s Self-Confidence Provide Female Role Models
	6 Combating Misperceptions, Stereotypes and Other Biases against Young Women	<ul style="list-style-type: none"> Influence Parents, Spouses, and others to Support Women’s Career Choices Connect Employers Directly with Young Women Provide Inclusivity Training to Employers
Demand-Side Interventions	7 Increasing Young, Female Entrepreneurs’ to Access & Control Financial Resources	<ul style="list-style-type: none"> Leverage Digital Financial Services to Support Women’s Financial Inclusion Connect Entrepreneurs with Traditional and Alternative Funding Sources
	8 Providing Young, Female Entrepreneurs with Business Skills & Additional Support	<ul style="list-style-type: none"> Train, Mentor and Support Women Digital Entrepreneurs to Succeed Shift National Mindsets on Women’s Roles and Capabilities

This report presents an ongoing diagnosis of the supply- and demand-side challenges and approaches to design effective gender-inclusive digital jobs interventions for youth. There are limited youth digital employment interventions that operate on the demand-side by specifically helping firms to create jobs. There are even fewer digital jobs projects that effectively intervene on both the supply- and demand-side. A notable exception is the World Bank’s *Digital Jobs for Khyber Pakhtunkhwa* project in Pakistan.

²² Datta, Assy, Buba, Watson et al. 2018.

BOX 2**DIGITAL JOBS FOR KP: AN INTEGRATED APPROACH TO DIGITAL JOBS**

The World Bank's "Digital Jobs for Khyber Pakhtunkhwa (KP)" project presents a comprehensive example of how governments can integrate supply-side, demand-side and policy-level approaches when implementing digital jobs interventions for youth.

Supply-Side: "Digital Jobs for KP" supports two flagship skills-building activities. The objective of the Youth Employment Program (YEP) is to equip youth with in-demand digital skills for the global digital economy. The YEP encourages youth to enter self-employment and entrepreneurship opportunities by using online work platforms to connect to online freelancing work. The KP IT Board (KPITB) also established public, gender-inclusive "durshal" co-working spaces for youth.

Demand-Side: To position itself as a growing outsourcing destination, the KPITB developed a global marketing campaign to promote investment in the IT Sector and BPO sector. This campaign includes a package of subsidies on operational costs, tax rebates, support on recruitment and training, customized business facilitation, and incentives to support business development in the province. The KPITB has also launched a USD 1 million effort to prepare BPO ready spaces for use by national and international BPO service providers.

Policy & System-Level Considerations: The Khyber Pakhtunkhwa IT Board (KPITB) is also investing in the enabling environment and infrastructure improvements to attract international and national BPO companies to KP. More recently, the Government of KP removed taxes on BPO providers, IT businesses, as reduced the broadband tax from 19.5% to 10%, effectively making it 30% cheaper to operate IT businesses in the province.

5.1 Understanding Context and Diagnosing Constraints

The starting point for program design is gaining a thorough understanding of the local context. Project teams need to identify the specific barriers young people face when accessing economic opportunities, as well as those constraints that the private sector must overcome to grow and create digital jobs for youth. The typology of drivers of demand for digital jobs can serve as a framework to help determine the digital economic opportunities and limitations in the public and private sectors generated via outsourcing, or facilitated via online platforms. Understanding the context and diagnosing constraints faced by young women (on the supply side) or firms (on the demand side) is important but not always straightforward.

Challenge 1 Navigating Shifts in Demand for Digital Skills

Approach 1.1 Assess Market Demand for Digital Skills

When designing digital jobs program for youth that include technical skills-building components, project teams should ensure that they conduct market analysis that evaluates the level of demand for digital skills in the local context. *Laboratoria*, a coding bootcamp for women, surveys hiring managers across private sector tech companies in Latin America and Silicon Valley to develop a business-directed curriculum. In Kenya, the *African Centre for Women*

in Information and Communications Technology (ACWICT) implemented the Vusha Project to provide youth market-relevant ICT skills. Program staff researched the ICT skills which were most requested in local job postings, and reviewed studies showing skills which were most demanded on online freelancing sites such as Upwork.

Challenge 2 Understanding Gendered Differences in Roles, Needs, Opportunities and Limitations

Approach 2.1 Conduct Context-Specific Gender Analysis

Before starting the design phase, project teams should conduct an analysis to understand the gender dynamics within the labor market, identify gender roles, relations, constraints and opportunities, and align all design decisions with those findings.²³ As such, the project staff of Plan International’s *Saksham* carried out a market intelligence study in India to understand gender-based job requirements and market trends before the commencement of the project.

5.2 Program Design Components: Supply-Side Interventions

Once market and gender analyses have been completed, project teams should use their findings to design supply-side activities. Project teams should integrate gender-inclusive strategies at each of the following implementation steps:

1. Identifying and targeting the population.
2. Registering, ensuring eligibility, collecting information on target population and selected beneficiaries.
3. Profiling the youth beneficiaries.
4. Delivering and paying for integrated packages of services to connect beneficiaries to jobs, either self-employment or wage-employment, with strong linkages to the needs of the private sector.
5. Putting in place the tight monitoring system to evaluate performance.²⁴

Challenge 3 Recruiting Young Women to Digital Jobs Programs

The case studies revealed that many S4YE members, and their implementing organizations, had difficulty in recruiting female youth beneficiaries.

Approach 3.1 Utilize Mixed Recruitment Techniques

In order to recruit young women from disadvantaged communities into digital jobs programs, project teams created promotional campaigns that targeted spaces which are commonly frequented by young women. Accenture’s *Training for the Future* program relies on word-of-

²³ A good toolkit for conducting gender studies is the “Gender Analysis, Assessment & Audit Manual and Toolkit” by Lis Meyers and Lindsey Jones, ACDI/VOCA.

²⁴ Datta, Assy, Buba, Watson et al. 2018.

mouth from alumni as a key strategy for advertising the program to prospective candidates. In Morocco, program staff have established an “ambassadors” program, where alumni are invited to share their experiences at public events and forums. In South Africa, *Harambee* implemented its “Feet on Street Campaign”, where recruiters worked directly in low-income neighborhoods to recruit youth job-seekers. The project diversified also leveraged referrals from community-based partners, faith-based organizations and youth clubs to identify program candidates.

Approach 3.2 *Establish Program Centers in Safe and Accessible Locations*

Many youth face mobility constraints which inhibit their ability to travel to training programs, search for jobs, and commute to and from work.²⁵ In many contexts, these restrictions are compounded by social norms which further limit young women’s ability to access safe, affordable and reliable transportation. Program staff at Plan Sri Lanka found several obstacles preventing the use of local telecenters by rural women including inaccessible locations, inconvenient opening hours for women, generic content and insufficient resources. Consequently, the *Empowering Women through E-Governance* initiative sought to establish at least two telecenters to be owned and operated by women’s groups. These telecenters were used by women to access public information and/or train themselves in digital and other skills.

Approach 3.3 *Promote Early-Age Exposure to ICTs*

Exposing young women to digital skills at an early age increases the likelihood that they pursue tech-related education or employment opportunities. In 2016, Accenture found that early exposure to coding drives interest in computing among girls.²⁶ In the United States, with support from Accenture and other private sector partners, *Girls Who Code* implements various programs to engage girls aged 10 through 18 in learning computer science and programming concepts. By spring 2018, Girls Who Code will have reached 50,000 girls in all 50 states in the US, successfully inspiring girls to consider studying computer science and paving the path for future careers in technology. By 2022, at current course and spend, Girls Who Code programs will help fill 13%, or roughly 11,000, of the entry-level computer science jobs needed to be filled by women to create gender parity in the industry in the U.S.²⁷

Approach 3.4 *Provide Stipends, Accommodations & Other Incentives*

Reducing the cost of attending digital skills training programs can make programs more accessible to young women, regardless of their financial situation. In Kosovo, the *Women in Online Work (WoW) Pilot* provided transportation and meal stipends to female beneficiaries. Reducing financial barriers for enrolment and participation helped more trainees to become “active learners”, who completed self-paced online lectures and videos, participated in classroom exercises, and bid for digital jobs using an online freelancing platform. However, program staff also found that stipends disrupted the atmosphere of the training, as some beneficiaries complained that students were accepting the stipend then not attending training.

²⁵ Romero and Urquhart 2018.

²⁶ Accenture 2016.

²⁷ Ibid.

Challenge 4 Retaining Female Beneficiaries in Programs

Digital youth programs reported facing significant challenges with retaining young women in training, work based learning, and employment.

Approach 4.1 Design a Rigorous Screening Process

Many youth employment programs conduct thorough screening of applicants before enrolling beneficiaries in their training. Such a process can help staff to ensure that their programs truly meet the needs, abilities and ambitions of the accepted beneficiaries. In 2017, USAID’s West Bank and Gaza mission partnered with SAP, a leading global enterprise software company, to hold the first iteration of the **Compete Project – Young Professionals Program (YPP)**. The YPP was a 45-day bootcamp to provide targeted training in multiple aspects of SAP’s enterprise software. The recruitment phase lasted for 3 months, where SAP conducted individual interviews, cognitive testing, personality profiling, and essay writing, to ensure that the chosen candidates had the highest chance of successfully completing the program.

Approach 4.2 Incorporate a Blended Approach to Training Delivery

In areas where youth beneficiaries face barriers to movement that limit their ability to attend training courses regularly, online training programs can provide a convenient and accessible alternative to in-person training programs. Additionally, incorporating in-person training in centers that provide reliable computer and Internet access may help young women who have limited ICT access at home to overcome access barriers. **Digital Divide Data (DDD)** recruits and trains youth to deliver BPO services to their clients. DDD’s recruitment and hiring model has three phases. First, DDD recruits youth from disadvantaged areas to undergo business education, soft and technical skills training through in classroom face-to-face learning (70%) and online learning (30%). In the second phase, DDD hires promising trainees, who spend an additional three months in a work readiness training program, before they are placed in a job for nine months of contracted work. After this year-long on-the-job training period, beneficiaries have the opportunity to start higher education, whereby DDD structures their work schedule to allow for further study. DDD has provided over 900 youth with long-term employment opportunities in the ICT, business services, retail, and banking and finance sectors.

Approach 4.3 Implement On-the-Job Learning Work Schemes

Many young women withdraw from skills-training programs because they do not see a clear connection for how the newly-developed skills will improve their employment outcomes. To incentivize program participation, **Samasource** adopted a training-to-employment model. Samasource hired beneficiaries directly in its own delivery centers, helped youth to be hired by partners’ delivery centers, and directed youth to online courses to become self-employed digital microworkers. The **EOH Youth Job Creation Initiative** adopted a “learnership” model to trained disadvantaged youth in South African who were first-time job seekers. The program included 30% of classroom or theoretical teaching followed by 70% of structured workplace learning.

Approach 4.4 Provide Access to ICT Infrastructure and Devices

Many youth populations, including those in lower-income groups or living rural areas, lack affordable access to ICTs. In Ghana, **Friends of the British Council (FoBC)** launched the Digital

Innovation Center (DIC) as a space for young people to share ideas, network, and access IT tools, software and high-speed Internet. FoBC also provided beneficiaries with access to a Skills and Innovation Hub. This Hub was equipped with high-speed Internet and laptops, which helped beneficiaries to create their own digital companies and access online freelance jobs.

Challenge 5 **Building Self-Confidence in Young Female Beneficiaries**

Several youth programs observed that their female beneficiaries were less confident, quieter, more reserved, and engaged less during training, than their male counterparts.

Approach 5.1 **Support and Engage Women in Interactive Learning Experiences**

Many digital jobs programs reported that low confidence levels of young female beneficiaries resulted in less engagement with training materials, peers and trainers. The *Youth Banner Economic Empowerment Program (BEEP)* is a six-month program that recruits young entrepreneurs into business clubs led by experienced business professionals. However, program staff reported having difficulty recruiting women for their economic empowerment clubs, because women were not being comfortable in clubs with male peers. Female beneficiaries also reported that they could not openly share their ideas in co-ed clubs, and instead opted to be placed in female-only groups. Based on these experiences, the Youth Banner program staff elected to exclusively target women for their Intel-supported “She Will Connect” initiative.

Approach 5.2 **Develop Female Beneficiaries’ Communication and Leadership Skills**

Many implementers and their youth beneficiaries reported that employers valued soft skills as much as, if not more, than technical expertise. *Maharishi Institute*, a South African impact sourcing company, implements a one-year program to help unemployed, local youth to enter formal work opportunities. Most beneficiaries were unable to secure employment opportunities prior to joining their program because they were unable to effectively communicate their skills and experience to potential employers. In response, Maharishi modified its training curriculum to incorporate soft skills modules, including training on workplace readiness. As a result, female beneficiaries reported feeling more resilient to challenges in the workplace.

Approach 5.3 **Provide Female Role Models**

The ‘role-model effect’ helps young women to more easily relate to their peers, instructors, and mentors. The *Women in Online Work (WoW)* pilot in Kosovo provided professional mentorship to female beneficiaries. Mentors included accomplished peers and online freelancers who acted as trainers in the classroom. Mentors were responsible for assisting beneficiaries with technical issues during training, while also providing guidance during the job search process. With the support of their mentors, trainees were better able to identify online freelancing opportunities that were good matches for their technical and soft skills.

Challenge 6 **Combating Misperceptions, Stereotypes and Other Biases against Women**

Cultural barriers limit young women’s ability to “spend time online” freely at home, travel to training facilities to attend ICT courses, access capital needed to launch a business, and enter and progress in jobs.

Approach 6.1 *Influence Parents, Spouses, and others to Support Women’s Career Choices*

Program staff for digital jobs interventions have tried to engage with family and community members to combat restrictive social norms for women. *Saksham* in India engaged parents throughout the program, thus creating a supportive and enabling environment for young program participants. By organizing parents’ visits to prospective job places, Saksham helped address the concerns that parents had about their daughters’ employment.

Approach 6.2 *Connect Employers Directly with Young Women*

In many cultures, young women are discouraged from engaging in income-generating activities, including launching their own business, because of social taboos. To overcome these misperceptions, digital jobs programs hosted events that display the skills and aptitude of their female beneficiaries. Before graduating from the six-month coding bootcamp, *Laboratoria* students participate in Talent Fest, a 36-hour hackathon. Participating companies provide a real web development problem they face, and teams of students brainstorm, problem-solve and present solutions. The in-person participation in the Talent Fest gives companies the chance to see first-hand how the young women work, providing crucial insight into finding the right fit for openings. At the same time, the companies hold interviews with high-potential candidates.

Approach 6.3 *Provide Inclusivity Training to Employers*

Hiring bias persists in societies where it is taboo for women to work in STEM or ICT-related careers – or work anywhere at all.²⁸ Hiring staff may also have negative perceptions about women in STEM, or assume that candidates are unqualified due to their gender. *Ada Developers Academy*, a software developer training program based in the United States, provides workshops to companies on becoming more inclusive. ADA offers two training workshops: (1) “Implicit Bias” where trainers provide companies with concrete tools to help them become more aware of bias, mitigate its impact and reduce its presence in the minds of individuals; and (2) “Ally Skills” where trainers teach ways to influence and support people who are targets of systematic oppression based on their gender, sexual orientation, ethnicity, religion, and other personal characteristics.

5.3 Program Design Components: Demand-Side Interventions

Even less evidence exists for identifying successful interventions to promote growth and job creation of women-owned firms and farms in digital economy, or stimulating digital jobs creation for young female and male job seekers. S4YE’s guidelines on integrated youth employment programs envision five steps that project teams must take in designing and implementing interventions on demand side of the new generation of youth programs:

1. Defining the target youth population, and establishing a profiling of the possible jobs for target population.

²⁸ World Bank 2018.

2. Decomposing the constraints to growth faced by private sector.
3. Defining the target group of firms to be supported.
4. Identifying the constraints faced by the target group of firms.
5. Designing and implementing comprehensive packages for target group of firms.²⁹

Challenge 7 Difficulty for Women Entrepreneurs to Access & Control Financial Resources

Although both young men and young women face similar barriers when accessing finance, evidence from recent studies indicates that these barriers are higher for women, especially in developing countries.³⁰

Approach 7.1 Leverage Digital Financial Services to Support Women’s Financial Inclusion

Digital financial services (DFS) refer to a broad range of financial services (payments, credit, savings, remittances and insurance) accessed and delivered through digital channels, and are representing promising technologies to support women’s financial inclusion.³¹ In Pakistan, **GRID Impact** partnered with Karandaaz, a non-profit development finance company, to design a mobile money app specifically for low-income, low-literate women. The team of designers and researchers used a behavioral and human-centered design process to ensure that they were creating solutions with women and not only for women. The team used feedback from low-income women to design the app, improving the likelihood of adoption by its target audience.³²

Approach 7.2 Connect Entrepreneurs with Traditional and Alternative Funding Sources

Access to credit is often difficult for young entrepreneurs, particularly in rural areas and for those from impoverished backgrounds, who lack the capital and collateral required by traditional financial institutions. Young women typically have less access to and/or control over assets, further limiting their ability to raise credit and to start and grow a business. The World Bank’s **Caribbean Mobile Innovation Project (CMIP)** provides a networking channel for mobile apps developers and entrepreneurs to connect with stakeholders in the mobile technology ecosystem, such as angel investors, venture capitalists, national and regional governments, and established business professionals. CMIP has hosted three regional one-day pitch competitions, called PitchIT Caribbean, where promising digital start-ups and mobile app developers compete for USD 5,000 in seed funding. CMIP also assisted winning teams with applying to local, regional and global financing mechanisms, and helped to match teams directly with potential investors.

Challenge 8 Digital Entrepreneurs Require Skills & Support for Success

Digital technology is enabling new forms of entrepreneurship.³³ To take advantage of the benefits of knowledge-based online micro-enterprises, youth need digital, social and business skills.

²⁹ Datta, Assy, Buba, Watson et al. 2018.

³⁰ Narain 2009.

³¹ Alliance for Financial Inclusion 2016.

³² Fiorillo 2017.

³³ McKinsey Global Institute 2017.

Approach 8.1 *Train, Mentor and Support Female Digital Entrepreneurs to Succeed*
Internet Saathi, a digital literacy program that launched in 2015 through a partnership of Google and Tata Trust, is bringing entrepreneurship opportunities to rural women in India. Internet Saathi training helps women to learn how to access, use, and benefit from Internet. It also equips them with tech tools and content to spread their tech knowledge to other women in their villages. Finally, some of these trained women can choose to become local agents, who provide assorted services in their community over Internet-enabled devices.

Approach 8.2 *Shift National Mindsets on Women's Roles and Capabilities*
Girls in Tech is a global non-profit focused on the engagement, education and empowerment of girls and women who are passionate about technology. Each year, Girls in Tech hosts AMPLIFY, an annual start-up pitch competition for female entrepreneurs to showcase their innovations and compete for funding. Attendees include entrepreneurs, venture capitalists, and angel investors. AMPLIFY also features keynote speeches from industry leaders, and serves as an opportunity for emerging female entrepreneurs to build their professional networks.

6. Conclusion

Practitioners and policymakers have an opportunity to spur social and economic development by designing integrated, gender-inclusive interventions that empower young women to become more active players in the digital economy. Governments can foster empowerment of women in the digital economy by focusing on five key areas: women's rights; education and skills; access; content; and targets. Private sector programs for empowering women in digital economy can achieve gender equality in the workplace by focusing on inclusive talent acquisition and development, and inclusive supply chains.

Governments, private sector firms, NGOs, and other stakeholders seeking to create equal youth employment opportunities for young women must also be committed to scaling digital jobs programs. When making strategic decisions about scaling up, stakeholders must consider how to scale, what actor to involve in scaling efforts, and how to ensure that program quality is retained.

The global proliferation of ICTs has created opportunities for young people around the world to engage in digital work. These digital jobs are not only limited to work within the ICT industry, but also include work that youth find, perform and get paid for online. By working together, policymakers and practitioners can bridge the gender digital divide and help young women to take advantage of the benefits provided by digital jobs.

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S4YE SOLUTIONS FOR YOUTH EMPLOYMENT

S4YE Coalition Members:

