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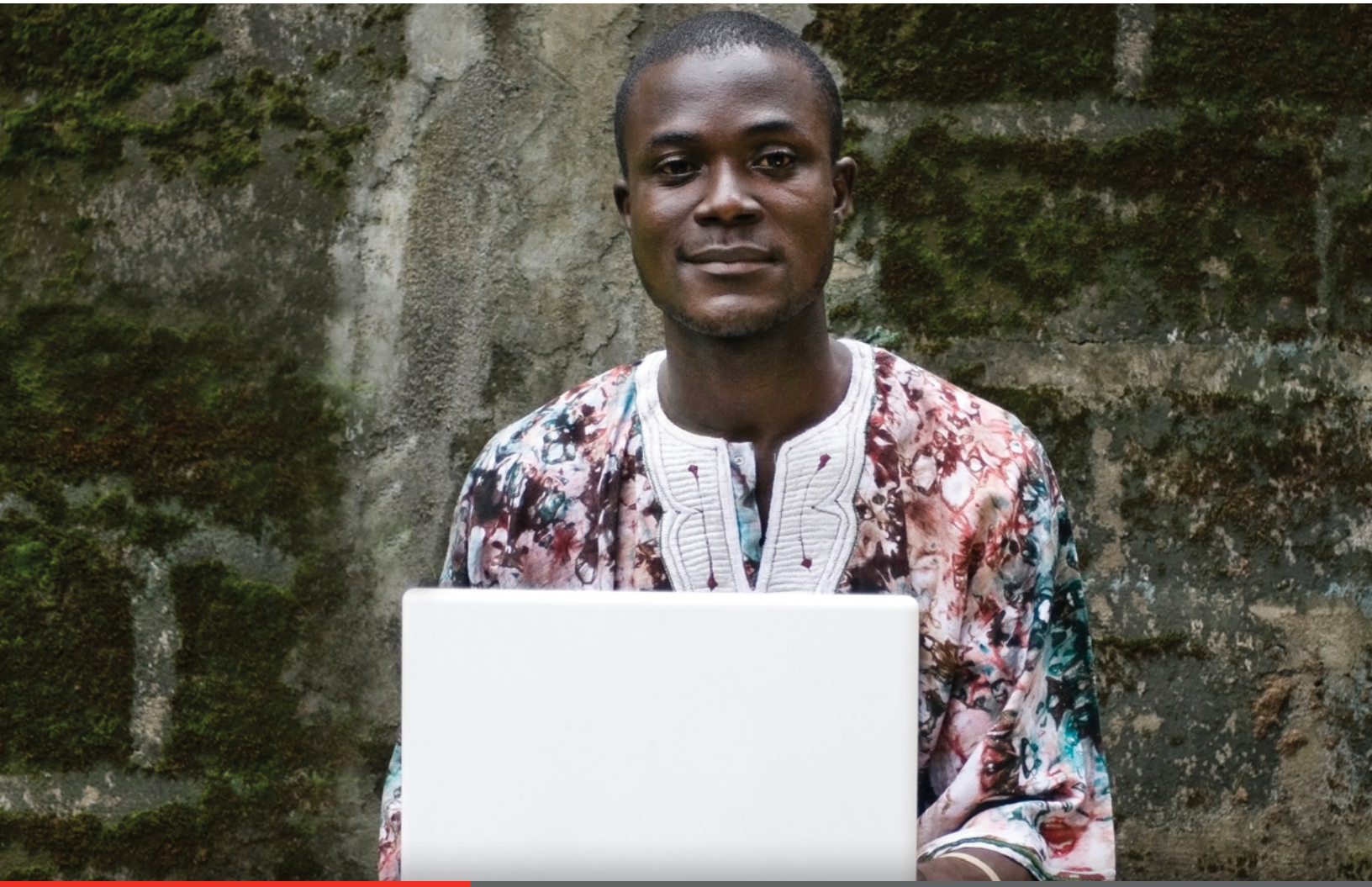

Training Models for Employment in the Digital Economy

Results for Development Institute

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Results for Development Institute (R4D) is a nonprofit organization whose mission is to unlock solutions to tough development challenges that prevent people in low- and middle-income countries from realizing their full potential. Using multiple approaches in multiple sectors, including global education, global health, governance, and market dynamics, R4D supports the discovery and implementation of new ideas for reducing poverty and improving lives around the world.

This paper was prepared with support from the Rockefeller Foundation. It was authored by Shubha Jayaram, Tara Hill, and Daniel Plaut, with guidance from Nicholas Burnett. For more information, please contact Shubha Jayaram: sjayaram@r4d.org

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Executive Summary

Introduction

With the total size of the digital economy expected to reach around $20.4 trillion[1] in 2013, both low- and high-income countries are reexamining their skills development policies to ensure that youth are fully equipped for employment in this sector.[2] Recent research has shown that employers across many different regions and sectors, including in the digital economy, increasingly value non-cognitive skills as much as cognitive and technical ones.[3] Thus, while skills such as basic computer skills, specialized capabilities, or programming knowledge are necessary for employment in this sector, these skills alone are insufficient for lasting quality employment, and broader non-cognitive, or soft skills, are also needed.

This paper was written with support from the Rockefeller Foundation's Digital Jobs Africa initiative which seeks to impact the lives of one million people in six African countries – Egypt, Ghana, Kenya, Morocco, Nigeria and South Africa – through ICT-enabled employed for youth and the subsequent impact on their families and communities. Results for Development Institute (R4D) undertook a study that explores skills training programs for ICT-enabled employment opportunities. Given that ICT already contributes about 7 percent of Africa's gross domestic product, training models that successfully prepare youth for employment in this sector stand to play an important role in both boosting youth employment and supporting the growth of the ICT industry in the region. With this in mind, R4D conducted a multi-region review of innovative training models for employment in the digital economy. Models were selected based on program objectives and geography – the focus of our study was on sub-Saharan Africa and North Africa, although promising programs in Asia with the potential for replication were also identified. The full array of programs uncovered is seen in Annex II, and 20 programs are profiled in more depth in the report (see Overview Table below). These case studies indicate some common characteristics and offer lessons on how to increase youth employment in the digital economy.

Key characteristics of promising training models

The 20 programs selected for the in-depth profiles shared some common key characteristics:

1. **Demand-driven:** The most successful skills training programs are highly responsive to industry needs. Training courses designed with input from key industry employers ensure alignment between the skills that employers seek and those in which youth receive training.
2. **Holistic training in both ICT skills and non-cognitive skills:** Many of the programs incorporate elements of non-cognitive and life skills development in addition to ICT training, with several focused specifically on entrepreneurship training. Many featured programs also seek to provide skills relevant to the broader digital economy, providing flexible, rather than restrictive, technical training.
3. **Multi-stakeholder partnerships:** To increase scale and impact, skills training programs tend to be Public Private Partnerships, with financing and training provided by the public and private sectors respectively. Alternatively, they can consist of partnerships between multilaterals and the public sector.
4. **Post-training support and job placement:** Following training, many programs provide youth with internship and employment-matching services. In addition, mentorship and career counseling are also often emphasized.

Lessons Learned

R4D's study of the 20 profiled skills training programs revealed two key lessons for models seeking to boost youth employment in the digital economy. First, while it is critical for youth to learn ICT-sector relevant skills, it is equally important to develop transferable soft-skills such as analytic and communication skills, which requires holistic and well-rounded training models. Given the difficulty

[1]All references to dollars are to U.S. Dollars.

[2]For the purposes of this report, the digital economy is defined as one that encompasses the ICT sector; it includes both direct and indirect services that are linked to the sector.

[3]Burnett, Nicholas and Shubha Jayaram (2012). "Skills for Employability in Africa and Asia ISESE Skills Synthesis Paper." *Results for Development Institute*, Washington, DC.

Overview table[4]				
	Demand-driven	Holistic training in both ICT skills and non-cognitive skills	Multistakeholder partnerships	Post-training support and job placement
Afterschool Graduate Development Centre		✓	✓	✓
Alashanek ya balady – Association for Sustainable Development	✓	✓	✓	✓
AMIDEAST		✓		
Center for Digital inclusion		✓	✓	
Education for Employment	✓	✓	✓	✓
Egypt-at-Work		✓	✓	
Egypt ICT Trust Fund	✓	✓	✓	
Emploi-Hapilité		✓	✓	✓
Ghana-India Kofi Annan Centre of Excellence in ICT	✓		✓	
Ghana Multimedia Incubation Center			✓	
GEMS Education			✓	
Gram Tarang		✓	✓	
Himayat	✓	✓	✓	✓
IT Training Program for People with Disabilities	✓	✓		✓

[4]The Overview Table indicates all the programs profiled in this report. Nearly all projects exhibit some level of the four characteristics identified, and so the checkmarks are only a rough indication of the priority focus.

Overview table[4]				
	Demand-driven	Holistic training in both ICT skills and non-cognitive skills	Multistakeholder partnerships	Post-training support and job placement
LetIHelp	✓			
NIIT Nigeria	✓			
Paradigm Initiative Nigeria (PIN)	✓	✓	✓	✓
Professional Development Foundation	✓	✓	✓	
RLG Institute of Technology	✓		✓	
Women in Technology		✓		✓

in anticipating skill needs, training must be demand-driven and informed by industry employers, or, if supply-driven, must be limited to rapidly-expanding sectors with well-recognized skill gaps, as is currently the case with segments of the ICT sector in Africa.

Second, multi-stakeholder partnerships allow for greater investment and scale. Indeed, employers have the best knowledge of their own skills needs and have a vested stake in supporting the growth of an adequately trained labor force. Promising models of multi-stakeholder partnerships are found in a number of countries, including India, South Africa, Ghana, and Egypt. In these countries, the government has taken a lead in supporting skills development in partnership with the private sector, via both specific job training programs and sector-wide training initiatives.

R4D's research indicates that while there is an array of innovative and successful models in a mix of regions – many of which were highlighted in this report – a gap still exists in better understanding what makes a program successful, its precise cost, and how to scale components of successful initiatives in different contexts. For instance, we saw that unit costs for the training models studied were not easily available and varied widely, ranging from $60 to $1,500, depending on context, target student population, type of certification provided and length of services. It is clear that more analysis can be conducted to explore the cost per trainee and the cost effectiveness of successful programs. Similarly, there remains much to explore regarding how multi-stakeholder partnerships can be fostered and best leveraged for scale and effectiveness. In order to make an impact in the lives of vulnerable youth worldwide, it is important to understand these factors in the years ahead.

I. Introduction

The growth of the digital economy and the information and communications technology (ICT) sector is affecting education and skills development needs and policies in both high- and low-income countries. In 2009, the International Data Corporation estimates that total global e-commerce is valued at $16 trillion[5,6] in 2013, and when the global market for digital products and services is included the total size of the international digital economy reaches an estimated $20.4 trillion, or nearly 14 percent of all sales through the world economy.[7]

At the same time, the size of the digital economy is juxtaposed with stubbornly high rates of youth[8] unemployment. In 2012, youth unemployment stood at 28.3 percent in the Middle East and 23.7 percent in North Africa (both well above the global average of 12.6 percent); meanwhile, the rate in sub-Saharan Africa is 11.8 percent.[9] Such high numbers of youth disconnected from work showcase the importance of exploring relevant skills development mechanisms and making such efforts a priority for policy agendas. Indeed, digital employment may offer one path to address the broader unemployment challenge. Demand-driven skills development programs that are relevant to the labor market are particularly important to bridging the gap between the skills that youth currently possess and the skills needed for employment in this sector.

Given this context, what does "skills development" entail? There are usually three acknowledged dimensions of skills development: (1) cognitive, (2) non-cognitive, and (3) technical. Cognitive skills are the basic mental abilities we use to think, study, and learn and are the tools with which technical and "life" skills are acquired. Non-cognitive skills refer to personality traits and behaviors. Also sometimes known as "21st-century skills," these are particularly important for work in today's global, 21st-century economy, as employers increasingly value skills such as communication, teamwork, leadership, and entrepreneurialism. Finally, technical skills can include basic business skills, ICT skills, or other job-specific skills.

General skill needs in sub-Saharan Africa and MENA

Broadly speaking, *employers are as concerned about non-cognitive skills* as they are about cognitive and technical

Table 1. Examples of skills required by employers in the formal and informal sectors

Cognitive skills	Non-cognative skills	Specific and techical skills
• Basic cognitive skills • Analytical and critical thinking	• Openness to learning • Communication: oral and written • Work habits: punctuality, application, etc. • Teamwork • Personal integrity • Leadership • Entrepreneurialism	• Language (mainly English) • Basic business skills • ICT skills • Often specific to context, but with both a practical and a theoretical perspective

[5]International Data Corporation. 2009. *Aid to Recovery: The Economic Impact of IT, Software, and the Microsoft Ecosystem in the Global Economy*. White paper. http://www.whitepapersdb.com/whitepapers/download/5612

[6]All references to dollars are to U.S. dollars.

[7]Oxford Economics. 2011. *The New Digital Economy: How It Will Transform Business*. www.pwc.com/gx/en/technology/publications/assets/the-new-digital-economy.pdf

[8]This report defines "youth" as ages 15-24

[9]ILO (International Labor Organization). 2013. *Global Employment Trends for Youth 2013*. Geneva.

[10]Burnett, N., and S. Jayaram. *2012. Skills for Employability in Africa and Asia*. Results for Development. http://r4d.org/sites/resultsfordevelopment.org/files/resources/ISESE%20Skills%20Synthesis_Final_0.pdf

ones.[10] Non-cognitive skills are also much more important for the informal sector than previously realized, as most informal workers are self-employed and thus need to be able to manage their entire value chain while running their own businesses. Skills required by employers in both the formal and informal sector likely include some combination of those identified in Table 1.

Interviews with both large and small employers in Benin, Burkina Faso, Kenya, Senegal, and Uganda show that skill gaps displayed by youth job applicants are across cognitive skills such as numeracy and critical thinking; non-cognitive skills such as communication, leadership, and decision-making; and technical skills, which depend on the industry. Of particular interest, given this study's focus, Kenyan employers, for example, are concerned with cognitive skills (basic knowledge, the level of educational attainment, and critical thinking) and non-cognitive skills (attitudes, communication skills, flexibility, and adaptability). Employers seek employees not only with basic literacy skills but also with the ability to learn quickly on-the-job through well-developed life skills such as communication, leadership, and decision-making abilities.[11]

In the Middle East and North Africa (MENA) region, although youth are relatively well educated, the skills taught at the secondary and postsecondary levels are not the skills that employers are seeking.[12] Indeed, nearly 40 percent of firms surveyed through investment climate assessments say that skill constraints are a major limiting factor for business.[13] Employers are demanding *technical* and *vocational* skills, yet there is an inadequate supply of youth with those capabilities,[14] and *higher-order cognitive skills* (for instance, flexibility, problem solving, and judgment), group work, and creative thinking are similarly not adequately fostered by the existing educational system.[15]

Skill needs for the digital economy

ICT already contributes about 7 percent of Africa's gross domestic product (GDP).[16] In fact, a recent study in Nigeria found that fully one-sixth of all new registered enterprises in Benin City were ICT-related.[17] A breakdown reveals that wireless broadband is expected to contribute more than 1 percent of GDP (and 1.7 percent of non-oil GDP) in 2015 in Nigeria and broadband and related industries are expected to contribute a similar 1.8 percent of GDP and 28,000 jobs by 2015 in South Africa.[18]

Skill needs for the digital economy vary by the type of work sought in the ICT sector. Broadly speaking, this can encompass employment in:

- Large-scale, formal production of ICT services (e.g., software development, provision of mobile and broadband services) and ICT-enabled services (e.g., business process outsourcing [BPO], mobile banking, and media);
- ICT-focused small and medium-sized enterprises and microenterprises, which may often be in the informal sector and include mobile service providers, international telecoms and VoIP providers, cyber cafes, ICT training, and ICT repair services; and
- Indirect work and all other services needed to support the growth of the digital sector (e.g., security workers, cleaners, and construction workers).[19]

A common theme, ICT skills alone are not sufficient for employment; broader non-cognitive, or soft, skills are also needed. Figure 1 illustrates the various general and specific skill needs in this sector.

[11]Lututala, B. M. 2012. *Skills for Employability in Sub-Saharan Africa*. Dakar, Senegal: Council for the Development of Social Science Research in Africa. http://r4d.org/sites/resultsfordevelopment.org/files/resources/Skills%20for%20Employability%20in%20Sub-Saharan%20Africa.pdf

[12]Coy, P. 2011. "The Youth Unemployment Bomb." *Bloomberg Businessweek*. http://www.businessweek.com/magazine/content/11_07/b4215058743638.htm

[13]World Bank. 2012c. *World Development Report 2013: Jobs*. Washington, D.C.

[14]UNDP (United Nations Development Programme) Regional Bureau for the Arab States. 2009. *Arab Human Development Report 2009: Challenges to Human Security in the Arab Countries*. http://hdr.undp.org/en/reports/regional/arabstates/ahdr2009e.pdf

[15]World Bank. 2008. *The Road Not Traveled: Education Reform in the Middle East and Africa*. MENA Development Report. http://siteresources.worldbank.org/INTMENA/Resources/EDU_Flagship_Full_ENG.pdf

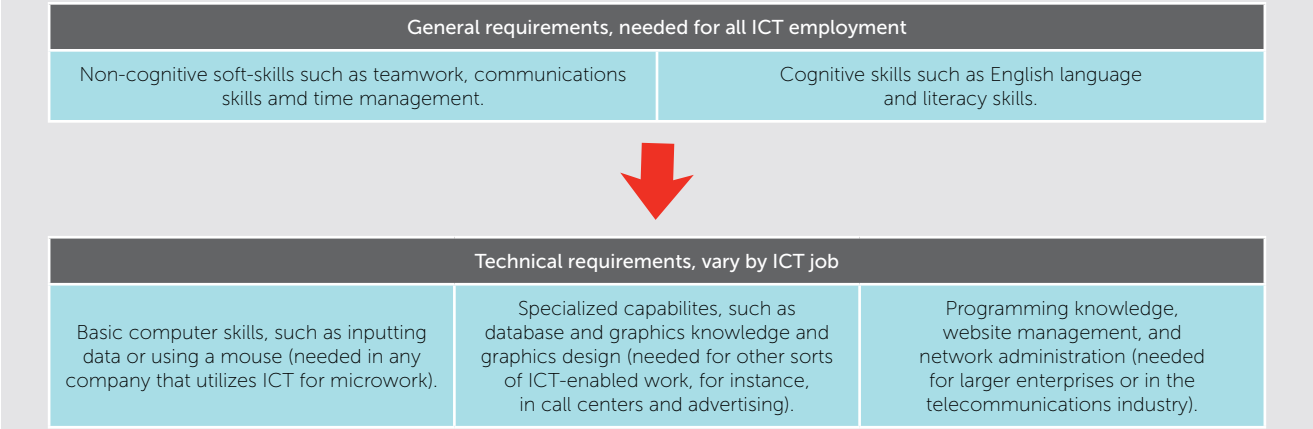
[16]World Bank. 2012b. T*he Transformational Use of Information and Communication Technologies in Africa*. eTransform Africa / World Bank / African Development Bank. http://www.infodev.org/en/Publication.1162.html

[17]Agboma, F. 2010. "A Multi-Level Assessment of Entrepreneurship in the Nigerian IT Sector." Ph.D. thesis submission. Institute for Development Policy and Management, University of Manchester, United Kingdom.

[18]Broadband Commission. 2012. *The State of Broadband 2012: Achieving Digital Inclusion for All*. http://www.broadbandcommission.org/Documents/bb-annualreport2012.pdf

[19]UNCTAD (United Nations Conference on Trade and Development). 2010. Information Economy Report 2010: ICTs, Enterprises, and Poverty Alleviation. Geneva.

Figure 1. Skill needs in the ICT sector



Lastly, it should be noted that a lack of ICT skills can constrain employment opportunities more generally, in addition to employment in the digital economy specifically. For instance, not being able to use a mobile phone or operate text messages can mean that agricultural contract workers may miss being called for jobs in South Africa, where companies tend to use mobile messages to contact workers on an as-needed basis.[20]

[20]Schmidt, J. P., and C. Stork. 2008. *Towards Evidence Based ICT Policy and Regulation: e-Skills*. Vol. 1, Policy Paper 3. Http://researchICTafrica.net

II. Models for ICT Skills Training

This study highlights 20 promising skills training models: 15 in MENA and sub-Saharan, and five in other regions, most of which provide training directly related to the ICT sector, and a few that prepare youth for more general employment. The next section describes a selection of five promising models in MENA and sub-Saharan Africa, and the following section describes five promising models in other regions. This selection was made arbitrarily and for the sake of conciseness, and the additional ten case studies of promising models highlighted in Annex 1. Many of the models profiled are demand-led initiatives. Unit costs – where such data were available – vary from roughly $60 to $1,500 per student, and depend on the length and type of training course.

The 20 programs selected for the in-depth profiles shared some common key characteristics:

1. **Demand-driven:** The most successful skills training programs are highly responsive to industry needs. Training courses designed with input from key industry employers ensure alignment between the skills that employers seek and those in which youth receive training.
2. **Holistic training in both ICT skills and non-cognitive skills:** Many of the programs incorporate elements of non-cognitive and life skills development in addition to ICT training, with several focused specifically on entrepreneurship training. Many featured programs also seek to provide skills relevant to the broader digital economy, providing flexible, rather than restrictive, technical training.
3. **Multi-stakeholder partnerships:** To increase scale and impact, skills training programs tend to be Public Private Partnerships, with financing and training provided by the public and private sectors respectively. Alternatively, they can consist of partnerships between multilaterals and the public sector.
4. **Post-training support and job placement:** Following training, many programs provide youth with internship and employment-matching services. In addition, mentorship and career counseling are also often emphasized.

Table 2 provides a snapshot of all case studies profiled, including the few that focus on sectors and skills outside of the ICT realm.[21]

Table 2. Overview of case studies

	Country of operation	Skills/training focus	Cost per student
Afterschool Graduate Development Centre	Nigeria	Entrepreneurship and life skills training	Average cost is $530
Alashanek ya balady - Association for Sustainable Development	Egypt	Technical, vocational and non-cognitive skills	The average cost for soft and technical skills approximately $60-70, while for vocational training, the cost ranges from $120-580 per student, depending on the type of training and materials required.
AMIDEAST	Morocco, Egypt, Iraq, Jordan, Kuwait, Lebanon, Oman, Saudi Arabia, Tunisia, UAE, West Bank and Gaza, and Yemen	Professional, non-cognitive and entrepreneurial skills	NA
Center for Digital Inclusion	Latin America, MENA, and Africa	ICT training	NA
Education for Employment	Egypt, Morocco, Tunisia, Jordan, Yemen, and West Bank and Gaza	Vocational and ICT	$1,516 (extrapolated from figures indicating global program expenses were $3,698,604 and 2,440 youth trained). This leads to an average monthly cost of $126/student

[21] All information in the following sections and the appendix was retrieved from the websites of the organizations profiled. We also conducted interviews with Chengguang Zhao (IT Training Program for People with Disabilities), Jeffrey Avina (Microsoft), Myriam Kadmiri (Education for Employment, Morocco) and 'Gbenga Sesan (Paradigm Initiative Nigeria). Completed case studies were sent to implementers for verification and feedback. These interviews were conducted over the period September 2012 – November 2013.

Table 2. Overview of case studies *(continued)*			
	Country of operation	**Skills/training focus**	**Cost per student**
Egypt-at-Work	Egypt	Non-cognitive, professional, media and communications training.	NA
Egypt ICT Trust Fund	Egypt	ICT and entrepreneurship training	NA
Emploi-Habilité	Morocco	Vocational, ICT and life (non-cognitive) skills training	Approximately $1,000, but will decrease below $400 in new phase with the Ministry of Tourism
Ghana-India Kofi Annan Centre of Excellence in ICT (AITI-KACE)	Ghana	ICT training, including with Cisco and Oracle	Cost per course ranges from about $100 for individual courses up to about $1,300 for 6 month diploma programs
Ghana Multimedia Incubation Center	Ghana	Data transcription and data entry	NA
GEMS Education	India and Nigeria	Technical and vocational	NA
Gram Tarang	India	ICT and vocational skills	Ranging between $290-$320 for 1 year course
Himayat	India	Computer-oriented skills, English skills, soft skills, and job-related technical skills	No more than $350 for a 3 month training
IT Training Program for People with Disabilities	Vietnam	ICT training, soft skills training, job search and networking skills	Roughly $225 per month, with ITTP itself covering up to $150 per student per month
LetITHelp	Philippines	ICT and BPO training	Approximately $500 per month per trainee
NIIT Nigeria	Nigeria	ICT technical training	Costs vary by program, scholarships are awarded based on scores from a national yearly scholarship test.
Paradigm Initiative Nigeria (PIN)	Nigeria	ICT professional skills training, as well as entrepreneurship	Tuition payment, currently $375 per student, works on a deferment model, where students enter the course free of cost, and are expected to pay 10% of their income over the first 6 months after graduating/ obtaining employment
Professional Development Foundation	Egypt	ICT training: Microsoft, Oracle, and Alcatel	NA
RLG Institute of Technology	Ghana	ICT skills and some entrepreneurship training	Fee paying, unless sponsored by the government of Ghana through Ghana's National Youth Employment Program
Women in Technology	Morocco, Bahrain, Iraq, Jordan, Lebanon, Oman, Saudi Arabia, United Arab Emirates, and Yemen	Standardized ICT training, business planning, and professional development	NA

Notes: BPO = business process outsourcing; NA = not available.

Promising models in MENA and sub-Saharan Africa

Our research has identified a range of models in Egypt, Ghana, Kenya, Morocco, Nigeria, and South Africa. Table A1 in Annex II provides an overview of all models explored, and illustrates the range of techniques used to increase youth employment in the digital economy. For instance, models not profiled as case studies but that also show promise includes MobileWorks, which serves as a sort of marketplace for digital jobs: the crowdsourcing platform is used to alert workers all over the world to digital tasks, some of which need only a mobile phone with Internet connectivity. Meanwhile, organizations such as Digital Divide Data and Samasource engage in a combination of training and job placement in the Business Process Outsourcing (BPO) industry, via *impact sourcing* or *social outsourcing* where microwork is sourced out to contractors in poorer communities in developing countries.[23] Samasource's partners recruit and train youth; training usually entails ICT, English-language, and soft skills sessions. The local, in-country partners then employ the youth to complete microwork tasks, which Samasource ultimately aggregates to deliver back to the client. Finally, some models allow communities to access resources and other information via ICT systems. For instance, the Arid Lands Information Network has *maarifa*, or knowledge centers, that promote local knowledge databases and enable access to information and skills.

Our study focuses in-depth on 12 models in MENA and sub-Saharan Africa that specifically train youth for employment in the ICT sector. In addition, we also investigate 3 models that train youth more broadly for employment in a mix of sectors. All models selected possessed some combination of the four key characteristics delineated in the previous section, which are further described in the case studies below.

Featured ICT Case Studies in MENA and sub-Saharan Africa

Below is a selection of five case studies of particularly promising ICT programs working within MENA and sub-Saharan Africa, selected to showcase the array of training programs in the region; the remaining case studies can be found in Annex I.

Case Study 1: AITI-KACE	
Ghana-India Kofi Annan Centre of Excellence in ICT (AITI-KACE)	
Summary	The Ghana-India Kofi Annan Centre of Excellence in ICT was established in 2003 to facilitate the growth of ICT in West Africa, a collaborative effort between the Government of Ghana and the Government of India. The center provides an environment for innovation, teaching, and learning about ICT, and is equipped with the latest in user technology, as well as West Africa's first supercomputer. AITI-KACE offers graduates of tertiary institutions and working professionals high-quality ICT training, including programming skills for secondary school seniors, in a program called i2CAP. Specialized training is also offered to policymakers and parliamentarians, aiming to stimulate interest in Ghana's growing ICT sector. Finally, the Centre also provides consulting services to individuals and businesses looking for ICT solutions.
Training structure	Courses are designed to strengthen problem solving skills and technical thinking, as well as focusing on technical skills, such as algorithm design. Training programs vary in transmission medium, and include lectures, tutorials, and independent study. Particular emphasis is placed on ensuring participants have hands-on training so that they are industry-ready when they complete their training. Programs include Post-Graduate Diplomas in Advanced Computing and Wireless and Mobile Computing, a Foundation of Software Development Course, as well as Certificates in Information Systems Auditing, Financial Valuation Modeling, Web Applications Development, and Programing. Admission to AITI-KACE is very competitive, and is based on standard aptitude tests completed by candidates.
Partnerships	AITI-KACE holds special vendor partnerships with technology innovators like Cisco and Oracle, which in turn underpins their training programs in web development, software training, and other hands on sector-specific skills. It also partners with local tertiary institutions, such as Bolgatanga Polytechnic, Cape Coast Polytechnic, and Ho Polytechnic; overseas institutions, including the Linux Professional Institute, Novell and Microsoft; as well as the Ghanaian and Indian governments.
Employment sector	Training is focused on advanced information technology skills for employment in West Africa's growing ICT sector.
Funding	Funding comes both from paid tuition as well as contributions from international and local partners.
Cost per student	Cost per course ranges from about $100 for individual courses up to about $1300 for 6-month diploma programs.
Successes and challenges	Over its 10 years in existence, the AITI-KACE has trained over 10,000 people in ICT skills, successfully equipping many to excel in West Africa's ICT sector. As Ghana's first Advanced Information Technology Institute, KACE faced the challenge of stimulating an ICT sector that was not always vibrant. Establishing broad partnerships (with both private and public ICT stakeholders) has helped AITI-KACE expand their reach.

[22]UNCTAD. 2010.

Case Study 2. Education for Employment	
Education for Employment (Morocco, Egypt, Tunisia, Jordan, Yemen, Palestine)[23]	
Summary	Education for Employment (EFE) is an innovative network of locally-run, affiliated not-for-profits that seek to improve youth employment prospects in the MENA region through comprehensive skills training. Since its inception in 2006, EFE has trained more than 2,540 disadvantaged youth and placed them in a variety of jobs across the region. EFE seeks to maintain a 50 percent or higher rate of female participation in its programs, and has partnered with more than 20 educational organizations across its network. EFE has a 69 percent job placement rate and a 77 percent job retention rate. Its strength lies in its demand-driven model, whereby it connects employers directly with the trained workforce that they seek. EFE identifies sectors of the economy with high growth and employment potential but that lack adequately skilled workers, and it trains youth with the specific skills required to obtain job placements in these industries.
Training structure	EFE works alongside its employer partners to design practical training courses that meet the employers' needs. Graduates from the program are therefore trained for immediate employment within that particular industry and often have a job position waiting for them upon completing the program. EFE's training programs cover a diverse set of skill areas, including entrepreneurship training, hospitality training, sales training, and textile training. In Morocco, training programs cover soft skills (a 60-hour program) and retail training, leading to a final 20-hour course on ICT skills strengthening developed in partnership with Microsoft. To date, 200 youth have participated in the ICT module. EFE is also collaborating with Accenture to develop materials to train youth in specific ICT areas (for instance, coding, HR Access) to allow for employment in a greater mix of sectors.
Partnerships	In 2011, EFE worked with 158 employer partners, and to date, EFE has worked with more than 850 employer partners across the MENA region. EFE's model works with the partners to identify and secure job placements from employers before it even begins to train youth. In Morocco, EFE also partners with public universities and the Ministry of Youth to recruit youth for its training programs.
Employment sector	EFE has placed graduates in industries including hotel management, hospitality, business consulting, media, accounting and finance, education, and information technology. Specifically in its Morocco hub, EFE provides ICT skills training to Moroccan youth to enable EFE Morocco graduates to work in ICT companies or call centers, or to improve their ICT skills for advancement within other jobs.
Funding	EFE encourages employers to co-sponsor graduates in its training program. EFE is funded by, among others, the MasterCard Foundation, USAID, the Schwab Foundation for Social Entrepreneurship, the United Nations Development Program, Microsoft, and the Said Foundation.
Cost per student	Global program expenses for EFE in 2011 were $3,698,604, which given the 2,440 youth trained, results in an annual average expense of $1,516 per student, or a monthly average of $126 a student. Costs per student may vary by country and by the type of training received.
Successes and challenges	Although the model has succeeded in increasing its scale and inception dramatically since inception, EFE has faced challenges in maintaining its employer partners' hiring commitments. As a result of the political and economic instability in the MENA region in 2011, EFE had difficulty securing job placements for its training program graduates in several countries of operation. In response, EFE launched both internship and entrepreneurship programs and has pursued new job placements with existing and new corporate partners. EFE is also increasingly focused on its youth outreach and reaching the appropriate demographic.

[23]For more information, see: Education for Employment. 2012. *2011 Annual Report*. www.efefoundation.org/downloads/Education%20For%20Employment%202011%20Annual%20Report.pdf.

Case Study 3: Egypt ICT Trust Fund – Youth Employment Generation Program

Egypt ICT Trust Fund – Youth Employment Generation Program (Egypt)	
Summary	The Egypt Information and Communication Technology Trust Fund (ICT-TF) was founded in 2002, aiming to explore the ways in which ICT development can foster socio-economic growth and improve the livelihood of Egyptian citizens. The Fund sponsors projects in six main sectors: Community Development, Agriculture, Education, Health, ICT for the Disabled, and ICT for Micro, Small, and Medium Enterprises (M/SMEs). Within the SME sector, the Youth Employment Generation program seeks to address the skill gap among Egypt's youth to best meet labor market demands. It is divided into three components: (1) M/SMEs, (2) the Youth Social Entrepreneurship Program, and (3) the Vocational Training & Internship program. The M/SMEs program targets both male and females aged 21-45 who own their own M/SMEs and are willing to use ICT within their business. Meanwhile, the Youth Social Entrepreneurship Program mentors young social entrepreneurs through online training and networking opportunities. Lastly, the Vocational Training & Internship program targets youth between the ages of 18-30 in vocational schools, and provides training on skills relevant to the current job market.
Training structure	The M/SMEs program provides business training, including communication skills, planning and marketing, inventory, accounting, and project management to young M/SME owners. It has also provided training kits that cover a mix of business skills (including computer skills). In the Youth Social Entrepreneurship program, training is held on skills like social responsibility, planning, marketing, finance, management, and scaling-up. Networking and mentoring opportunities are provided through the EgyTech Exhibition, where 11 entrepreneurs present their projects. Online mentorship is also provided. Lastly, a competition of the best social entrepreneurs is held where winners are selected according to business plans, and are supported with in-kind contributions. The Vocational and Internship program provides demand-led training, conducting a market analysis and training needs assessment, as well as a national market study to determine the skills gap. Capacity building is subsequently designed and delivered on basic IT and soft skills, engineering, web design, business skills, and graphic advertisement. Employment opportunities are then facilitated.
Partnerships	The Fund was established by the Ministry of Communication and Information Technology (MCIT) and UNDP. The Youth Employment Generation Program as a whole is conducted in partnership with the Egyptian Ministry of Youth, the Japanese Government, the Social Fund for Development, the Ministry of Investment, Bedaya Center for Entrepreneurship and SME Development,[24] and Microsoft Egypt.
Employment sector	Within the Youth Employment Generation Program, the ICT Fund promotes self-employment and social entrepreneurship, supporting a broad range of retail and service enterprises. Importantly, outside of the M/SME sector, the ICT Fund also works on ICT solutions and training for agriculture.
Funding	Funding comes from government agencies like Japan's Office of Development Assistance (ODA) and the Swiss Agency for Development and Cooperation (SDC); international organizations such as the World Health Organization, UNDP and the Islamic Development Bank; and private contributors such as the Vodafone Foundation and Microsoft.
Cost per student	Not available.
Successes and challenges	The M/SMEs program has successfully developed a toolkit for M/SME and ICT training, providing face-to-face training to 1,650 entrepreneurs, including 150 with disabilities, across 23 Egyptian governorates. Training kits have been distributed to 320 enterprises, and an internet training platform (www.kayanak.net) was created to build capacity of MSME owners online.

[24] A center founded by the Egyptian Government's General Authority for Investment (GAFI) to support the growth and development of Egyptian SMEs by enabling access to a variety of financial and non-financial services.

Case Study 4: Paradigm Initiative Nigeria

Paradigm Initiative Nigeria (Nigeria)	
Summary	Established in 2007, Paradigm Initiative Nigeria (PIN) is a social enterprise seeking to facilitate economic opportunities for disadvantaged young people through ICT and entrepreneurship training. Its principal training program is Ajengule.org, which provides ICT and business skills training to young people from the Ajengule slum, one of the largest in Lagos. Additionally, PIN is working to reduce the number of youth engaged in cybercrime, training them to re-channel their skills towards legitimate employment. It has also established a national platform to discuss the latest technical and business developments within the industry.
Training structure	Ajengule.org focuses on providing ICT training to youth from the Ajengule slum, as a means of improving their livelihoods and tackling unemployment. Students targeted have typically reached an endpoint in the schooling that they can afford. In addition to computer skills literacy, training courses also focus on business plan development, entrepreneurship, social impact, marketing, risk management, and financing. The training lasts approximately 7 weeks, after which point trainees are assisted in finding internships, often sponsored to attend networking events, and matched with relevant corporate partners for future opportunities. Prior to graduating, each trainee also helps to train 5 incoming students. Overall, about 80 students go through the training program each year.
Partnerships	PIN partners include UK Trade and Investment, Afrinvest, the FATE Foundation, the Hands on Institute of Information Technology (HIIT), Computer Aid International, and the Korean Internet Volunteers. On their cybercrime initiative, PIN partners directly with Microsoft Nigeria.
Employment sector	Training focuses primarily on the IT sector, however business skills training allow for trainees to enter a variety of sectors and even start up their own businesses.
Funding	Funding comes from trainees' deferred payments, as well as partner contributions; Microsoft and the Commonwealth Foundation are major funders.
Cost per student	Current tuition cost per student stands at $375 and expected to decline over the next few years. Payment of tuition works on a deferment model, which allows students to join the program at no cost. At the end of the program, and once graduates begin earning an income, they are expected to pay back 10% of their income to PIN for six months, as a means of paying for their training and sustaining training for future trainees.
Successes and challenges	PIN has successfully trained over 120 disadvantaged youth, whose average income has subsequently increased from nothing – most were unemployed- to an average of $3 a day. Many have either managed to secure internships or full-time employment following their training. PIN has faced challenges in expanding its reach further (outside of Ajengule), and in ensuring sustainability as the program continues. To overcome these obstacles, PIN has plans to establish an Innovation Centre focused on incubation of trainee projects and businesses, and provision of ICT-based services to the broader community.

Case Study 5. Women in Technology

Women in Technology (Morocco, Bahrain, Iraq, Jordan, Lebanon, Oman, Saudi Arabia, United Arab Emirates, Yemen)	
Summary	The Women in Technology (WIT) program for the MENA region was founded by the Middle East Partnership Initiative of the U.S. Department of State, and is managed by the Institute of International Education, with strong support and collaboration from Microsoft. The program empowers women by providing them with key ICT and career skills to allow them to gain employment in the 21st-century digital and knowledge economy. Since its inception in 2005, WIT has trained more than 11,000 women and strengthened the capacity of more than 60 local women's organizations.
Training structure	WIT takes a holistic approach to training, providing skills training in ICT, professional development, and entrepreneurship. The program provides access to professional development workshops, covering topics such as team development, management skills, leadership skills, and strategies for entering the job market, as well as programs related to capacity building and networking opportunities. Each partner organization also develops its own professional development network for women, providing an opportunity for women to share career resources, enhance their employability, and organize supplemental activities such as English clubs and job fairs.
Partnerships	Partners include local training organizations such as the Omani Women's Association; the College of Business Administration in Saudi Arabia; and SOUL, a nonprofit training and advocacy organization for women in Yemen. Trainers in the partner organizations improve their training techniques, strategies, and curricula by participating in professional exchange programs through virtual trainer communities, and participating in a global network to share best practices. WIT also helps its local partner organizations develop and implement sustainable business plans.
Employment sector	Upon completing WIT training, hundreds of women have found jobs in WIT training centers themselves, local women's organizations, and a variety of sectors and industries.
Funding	WIT has received more than $1 million in funding and donations from multinationals, foundations, local companies, small businesses, and individuals.
Cost per student	Not available.
Successes and challenges	The model could be improved by creating even stronger links to the job market. Although the model has reached significant scale in terms of number of women trained, increased partnerships with local employers may add further to its success.

Promising models in other regions

There are many examples of promising demand-led training models in other countries that have potential for replication in MENA and sub-Saharan Africa. Table A2 in Annex II provides an overview of fifteen of them and five are profiled here. As can be seen, many of the models are in India: indeed, India and the Philippines together account for about 50 percent of the world market for business process offshoring.[25]

We focus in-depth on five models: the Center for Digital Inclusion (multi-country), Gram Tarang (India), Himayat (India), the Information Technology Training Program for People with Disabilities (ITTP, located in Vietnam), and LetITHelp (the Philippines). Once again, these models are particularly relevant as they possess the four key characteristics identified previously, specifically:

- **Demand-driven:** All are demand-driven and train youth for work in the broader ICT sector, including for opportunities in the healthcare and insurance sectors.
- **Holistic training in both ICT skills and non-cognitive skills:** Their scope extends beyond simply training youth in ICT skills to mentorship and soft skills such as communication skills.
- **Multi-stakeholder partnerships:** ITTP works closely with the private sector, civil society organizations, and government agencies to build a strong, sustainable network, while Himayat and Gram Tarang are multi-stakeholder partnerships to support skills training.
- **Post-training support and job placement:** ITTP has developed a strong alumni network while Himayat is developing a formal mentoring and support program for its graduates through a help line and facilitation centers.

Case Study 6. Center for Digital Inclusion	
Center for Digital Inclusion (Brazil, Argentina, Chile, Colombia, Ecuador, Mexico, Peru, Spain, the United Kingdom, the United States, Uruguay, and Venezuela)	
Summary	The Center for Digital Inclusion (CDI), founded in 1995, partners with existing grassroots organizations to create community technology and learning centers for disadvantaged populations in Brazil, Argentina, Chile, Colombia, Ecuador, Mexico, Peru, Spain, the United Kingdom, the United States, Uruguay, and Venezuela. The centers partner with existing grassroots organizations. CDI provides free computers and software, implements educational methods, and trains instructors in order to promote digital inclusion in the partner communities. CDI's programs seek to deliver education to individuals as well as to provide communities with an expanded portfolio of technology services that lead to real skills for work in the modern labor market, increase community development, and provoke active citizenship, community mobilization, autonomy, ownership, and entrepreneurial behaviors. CDI has opened a total of 717 digital inclusion sites, including centers and schools, and reached 78,000 direct beneficiaries in 12 countries. CDI is in the process of expanding to the MENA region, with plans for India and other parts of Africa to follow.
Training structure	CDI's community centers are found in low-income and indigenous communities, psychiatric and disabled clinics, and detention facilities. The centers offer training in basic office programs, computer maintenance and networking, video and audio editing, blogging, and website development. They also plan to expand curriculum to business services such as resume building, e-governance, graphic design, scholarly research, e-health, e-learning, and job hunting. In addition to the community centers, CDI's Conexao Program in Brazil provides entrepreneurship training and mentorship to youth and people in low-income communities. These young entrepreneurs also receive pro bono consulting services from private-sector businesses to strengthen their enterprises and communities. Overall, the CDI methodological approach is based on a dual track of civic and digital education, empowering people to better serve their communities through technology.
Partnerships	CDI's programs are built on partnerships with established grassroots organizations in the communities they serve to encourage local ownership and ensure that the CDI approach is adapted to local context.
Employment sector	Students are trained in basic ICT skills that prepare them for a wide range of basic ICT jobs, and young entrepreneurs are provided the skills to streamline technical aspects of their small enterprises. The primary goal of CDI's training is to empower students to create positive change in their communities through the use of technology; there is no specific focus on job placement.
Funding	CDI receives financial and in-kind support from a range of private-sector and nonprofit partners, including the WWW Foundation, Microsoft, Dell, Motorola, ABN-AMRO Bank, the Skoll Foundation, the Vale Foundation, Accenture, Avina, the Kellogg Foundation, Deloitte, IBM, Cisco Systems, Unilever, UNESCO, Ashoka, and others.
Cost per student	Not available.

[25]UNCTAD. 2010.

Case Study 6. Center for Digital Inclusion *(continued)*	
Center for Digital Inclusion (Brazil, Argentina, Chile, Colombia, Ecuador, Mexico, Peru, Spain, the United Kingdom, the United States, Uruguay, and Venezuela)	
Successes and challenges	CDI has earned more than 60 awards from various sources including the Clinton Global Initiative, the World Economic Forum, Ashoka, UNESCO, and news media. It has been widely recognized as a successful model of introducing tools of technology in context-appropriate manners. However, with its rapid expansion across Brazil and to an additional 11 countries, CDI faces the problem of quality control as curriculum and management diversifies across its 717 sites. This will continue to be an issue as CDI looks to expand further. In addition, infrastructural challenges, such as poor connectivity and lack of technological hardware, may pose hurdles if CDI expands in certain African countries.

Case Study 7. Gram Tarang	
Gram Tarang (India)	
Summary	Gram Tarang Employability Training Services is a social enterprise that provides skills training for employability and self-employment for youth ranging from school dropouts to engineering graduates. Since its inception in 2006, the model has trained more than 30,000 youth across various industry sectors, and has an 82 percent job placement rate as a result of its strong ties to employers. Gram Tarang offers both specific and targeted ICT and ICT-enabled services training courses, and also provides basic computer and ICT training as components of its other vocational training courses.
Training structure	Gram Tarang offers courses and training in data entry and business processing to prepare students for employment in the ICT and ICT-enabled services sector (e.g. Business Process Outsourcing). Gram Tarang also offers training in other industries such as engineering, manufacturing, textiles, banking and finance, retail, etc. The training model not only incorporates technical skills but also builds students' cognitive, social, and behavioral skills. The program is modular, with three skill development focus levels: (1) basic technical skills that are trade specific (usually four to six months); (2) soft skills (one to two months), specifically communication, team building, self-management, presentation, and cultural awareness; and (3) particular job-specific skills relevant to the industry each student is pursuing (four to six months). Modules in each of these three categories are tailored to local industry needs.
Partnerships	Gram Tarang has several partnerships with the government to provide training. It has partnered with the National Skill Development Corporation to train 45,000 youth by 2020 and with the Ministry of Rural Development to train 10,000 youth that are below the poverty line.
Employment sector	Gram Tarang has several industry partners that provide employment opportunities for trainees upon completion of their training program. Specifically within the ICT sector, Gram Tarang partners with RSB and EWC, which have recruited more than 100 ICT-trained candidates to date. In its ICT and ICT-enabled services six-month training program, Gram Tarang has an 88 percent placement rate.
Funding	Gram Tarang Financial Services has partnered with the Government of Odisha state to set-up scholarships for vulnerable students, particularly scheduled castes and scheduled tribes youth. For others, student loans are offered for up to 50 percent of course fees.
Cost per student	18,000-20,000 Rs (approximately $290-320) for 1 year course
Successes and challenges	The model's strength is its wide scope of vocational training offered, within both the ICT sector and the more traditional vocational sectors such as manufacturing and engineering.

Case Study 8. Himayat[26]	
Himayat (India)	
Summary	Initiated in 2011, Himayat is a government-sponsored skills training and employment program in Jammu and Kashmir, India. Himayat trains disadvantaged youth (ages 18 to 35) in the skills required for entry-level jobs in the service sector, such as BPO, hospitality, healthcare, and accounting. Candidates are identified and mobilized through a "Gram Panchayat saturation" approach, in which youth are selected one Gram Panchayat (small town or village) at a time. The program aims to train 100,000 youth in the state over the next five years. School and college dropouts are given priority to receive training.
Training structure	The model is demand-driven, tailoring itself to the needs of the job market by providing training for high-growth service sector occupations. Training is provided by certified private-sector and nonprofit firms, and not by government employees – which helps to ensure that those providing the training have credible experience. Himayat has put in place incentives to ensure its partners are providing effective training: training firms are paid per student and only if the student is placed in a job upon completion of training and retains that job for a minimum of three months. Himayat training includes technical skills training required for particular jobs but also incorporates soft skills training. All students receive transferable skills training in areas such as English language and computer literacy skills. The ICT-enabled services course is a three-month BPO associate program covering ICT literacy and soft skills such as communication and listening skills. Other courses are offered in sales and marketing, education, and hospitality. Data entry operator and computer hardware technician courses are scheduled to be rolled out.
Partnerships	Himayat's partners include IL&FS Education, Don Bosco, the CAP Foundation, and IndiaCan. Partnerships for job placements have been developed with employers in the ICT sector, including Competent Synergies, Simula Software Solutions, and AITPL.
Employment sector	Himayat seeks to prepare students for entry-level manufacturing and service sector jobs, including with BPO, hospitality, and technology firms. To date, Himayat has placed students in companies including Café Coffee Day, V-Mart, Bajaj Alliance, Airtel Call Centre, Best Price, Bharti Capital, Mafoi Consultancy, Hotel Miraj, and NIIT technologies.
Funding	As a Public Private Partnership, Himayat is funded by the government (the Ministry of Rural Development) and is run by IL&FS Education.
Cost per student	Regardless of sector, the maximum permitted training cost per student is capped at $350 (Rs 18,800) for a three-month course, $524 (Rs 28,200) for a six-month course, and $681 (Rs 36,660) for a nine-month course. Mentorship and placement costs are not to exceed $19 per month (Rs 1,000 per month) for two months. Boarding and lodging charges are covered at approximately $2.70 (Rs. 166) per day. Meanwhile, total funds allocated to partners is stated to be $2.2m (Rs 1.18 billion), with the target number of youth at 54,380. This implies an average cost per student of $403 (Rs 21,699).
Successes and challenges	A key challenge facing Himayat has been high dropout rates. Out of 1,245 students who received training and jobs in the first phase, 950 accepted those jobs, and only 569 were still working in those jobs after four to six months. This suggests that approximately half of those trained are no longer benefiting directly through Himayat-facilitated employment. Himayat has identified several reasons for this, such as mismatched expectations related to salary, parental concern about leaving home, and general adjustment issues. Given that dropout rates decline after a student has passed the first six months of the job, Himayat has increased its focus on job retention. This has been done through various incentive structures at all stages of the training process. In the pre-training phase, youth and their families receive increased counseling to manage expectations of the training program and its likely outcomes. In the training phase, a "work-readiness" module has been incorporated to prepare youth for what to expect in the first few months of any job. Additionally, a mandatory trainer break of 1 month between successive training batches has been implemented, allowing trainers to go to the workplace and provide counseling services to the youth. Himayat has increased the post-placement allowance of its graduates to Rs 2,000 per month for the first six months, when salaries are often low and setup costs are high. Lastly, the program is also developing a more formal mentoring and support program for its graduates through the creation of a help line and facilitation centers.

[26]For more information, see: Pande, V. 2012. "A Silent Revolution in Jammu and Kashmir." *Live Mint & The Wall Street Journal*, September 19. www.livemint.com/Opinion/bODPGHEJZgSqSIRbLpUzaJ/A-silent-skilling-revolution-in-Jammu-and-Kashmir.html.

Case Study 9. Information Technology Training Program for People with Disabilities

Information Technology Training Program for People with Disabilities (Vietnam)[27]	
Summary	The Information Technology Training Program for People with Disabilities (ITTP) in Vietnam, funded by USAID and implemented by Catholic Relief Services, partners with local universities to bring ICT training to marginalized youth populations. The goal is to provide people with disabilities with relevant ICT skills, opening employment opportunities in a wide range of sectors, including those traditionally inaccessible to them. Since its inception in 2007, ITTP has trained more than 700 students, 80 percent of which have found full-time employment or internships with government offices and more than 150 local and international companies.
Training structure	Youth are provided not only with advanced ICT skills, but also soft skills training on how to conduct a job search, interview, and interact in an office. Roughly 30 percent of training time is spent in lectures, with the remainder spent on experiential learning and group work. The program offers one-year, six-month, and three-month courses.
Partnerships	The model has strong partnerships with both local universities and employers. Partnering with existing universities allows the training site to be established quickly within an existing infrastructure. Currently, the program partners with the Hanoi College of Information Technology and Van Lang University in Ho Chi Minh City, and plans to open a new location in Dong A University in Da Nang. The program works closely with employers to ensure that the ICT training courses are relevant and provide youth with the appropriate skills to meet market demand.
Employment sector	Courses are provided on office computing (1 to 2 months); graphic design, targeting advertising and website development (2 to 4 months); 3D modeling, targeting architecture, interior design, and real estate (3 to 6 months); website design (6 to 12 months); and office network administration (6 to 12 months). The program works closely with its alumni to connect current students to job opportunities. ITTP also works closely with employers to understand the specific niche skills they need. ITTP has created employer workshops that invite the participation of private-sector employers in designing training curricula to meet the needs of the market. Business advisory councils that seek to strengthen relationships between ITTP and its most committed employers, have also been established. ITTP meets with these employers two to four times a year to receive input on curriculum design, job placement, and fund-raising for scholarships. ITTP works with employers to de-mystify and de-stigmatize the notion of hiring people with disabilities and educates employers on how to accommodate employees with disabilities in the workplace. ITTP also works with employers to create internship programs for its students. ITTP has an increasing number of graduates who have successfully found employment and who act as a supportive resource for current students to help them connect with employment opportunities.
Funding	The program is funded by USAID. Additionally, employers provide financial and in-kind support in the form of scholarships and equipment, increasing the sustainability of the training program. Students with government-issued poverty certificates receive scholarships to cover the full cost of their training, and schools also support students to access student loans. Families that can contribute something are encouraged to do so; this has been found to help the sustainability of the program and reduce dropout rates.
Cost per student	The ITTP program costs roughly $225 per student per month. Training partners and families help contribute to part of this cost, with ITTP itself contributing up to $150 per student per month. Although it seeks to align its costs with that of average vocational training programs in Vietnam, ITTP's cost per student is slightly higher given the increased resources required to adequately meet the needs of students with disabilities and to ensure the effectiveness of the program and the continuance of the high job placement rates.
Successes and challenges	The main success of this model is its impact on students. In Vietnam, the job placement rate of young students graduating from universities and vocational training programs is around 30 to 50 percent – much lower than ITTP's 80 percent placement rate. Moreover, students who undergo ITTP's training program reportedly feel more independent, and experience significant professional and personal growth as a result of the program. ITTP is also unique in that it has chosen to focus specifically on high-end, ICT-related skills, whereas the majority of vocational programs in Vietnam focus on more traditional vocational skills such as manufacturing and textiles. A key challenge facing ITTP is sustainability and funding. It is currently difficult in Vietnam for programs to receive government funding outside government-run vocational training and rehabilitation centers. Catholic Relief Services and ITTP schools continue to advocate for students with disabilities to be able to study outside the government system. Similarly, to achieve scale and to ensure the program can be made available to the most marginalized of disabled students, ITTP seeks further donors outside of Catholic Relief Services and USAID.

[27]For more information, see: Zhao, C., W.-A. Rowe, N. Kamioka, and B. Hegarty. 2012. *Enhancing IT Vocational Training and Employment Opportunities for Young Vietnamese with Disabilities. Catholic Relief Services*. http://www.crsprogramquality.org/publications/2012/8/30/enhancing-it-vocational-training-and-employment-opportunitie.html

Case Study 10. LetITHelp	
LetITHelp (Philippines)	
Summary	LetItHelp is an innovative program in the Philippines that seeks to connect recent ICT graduates in Mindanao with opportunities in their field of study. There is a mismatch between the increase in ICT outsourcing jobs available in the Philippines and the lack of trained ICT professionals to supply the demand. As a result, LetITHelp focuses on ICT graduates from poor families and students from colleges and training programs who have the desire and commitment to work in this field but cannot gain employment in ICT jobs as a result of inadequate or insufficient training.
Training structure	LetItHelp selects motivated, underprivileged graduates who require additional training and work experience before they are employable in the labor market. These youth receive training from Syntactics Inc. (a commercial Web and software development outsourcing company in the Philippines) to hone their ICT and technical skills. Syntactics team leaders also provide mentorship and guidance in industry standards and general workplace practices. LetITHelp has also developed and delivered free seminars for ICT students at colleges and universities in northern Mindanao. The seminars emphasize the skills, requirements, and qualities of ICT professionals in the current market, to help students prepare for the realities of the ICT employment market upon graduating.
Partnerships	Training is received from Syntactics Inc. which partners with its clients (see below) on job placements.
Employment sector	Upon completion of the training program, most graduates are either hired by Syntactics itself, hired by a Syntactic client (e.g. Sri Jana Crafts, SolvePoverty, PutiPula, Samantha Growings, Siemer and Associates Telemates, and Change Fusion), or hired by another ICT company.
Funding	LetITHelp receives funding from Syntatics Inc. Additional financing comes from their contracted outsourcing work.
Cost/student	Cost per month per trainee is Php 25,000 (approximately $500) - this includes allowance for the trainee, training and the cost of operation/overhead.
Successes and challenges	LetITHelp has created an innovative model aimed specifically at students already studying ICT; it focuses on those students' transition from their colleges or vocational centers to employment in the industry. A future challenge for this relatively new model is how to increase its scale to reach an even larger number of relatively disadvantaged ICT graduates.

III. Fostering the Growth and Expansion of ICT Training Models

The public and private sectors will need to play engaged and overlapping roles to ensure that workers in MENA and sub-Saharan Africa are equipped to successfully find employment in the digital economy. This section focuses on two components, identified by UNCTAD[28] as vital to supporting this goal: (1) demand-driven, holistic training initiatives; and (2) multi-stakeholder partnerships involving shared responsibilities and funding from both industry and government.

Demand-driven, holistic training initiatives

From a holistic perspective, it is critical for youth to learn how to learn; teaching very specific tools may not be helpful as they may lose relevance in the fast-changing ICT sector. Whereas an introduction to basic ICT skills may be helpful (if there are trained teachers and appropriate resources), it is particularly important to increase general capability via developing literacy, language, and interpretive/analytical skills.[29]

For those already in the labor market, policies must focus on increasing e-skills in addition to increasing physical access to digital tools. For instance, a 2008 study found than in 9 of the 17 countries surveyed in sub-Saharan Africa, lack of skills was the most common reason for not using the Internet (in fact, in Ghana, a massive 70.8 percent of respondents cited it as the key barrier). Only in South Africa did more people refer to not having access to a computer as the primary reason for not using the Internet (53.1 percent), with only 25.4 percent mentioning lack of skills. The study recommends that national policies must not only ensure access to digital content, but also coordinate this with education policies that impart relevant and necessary e-skills that reach all citizens.[30]

The particularly promising models identified in this report not only support ICT job placement but also impart specific ICT skills and develop transferable, lifelong skills. Many also ensure that their training models and curricula are demand-driven and that employers play an active role and are closely consulted for their input. Some of the broader, non-ICT specific training initiatives identified in our research also cater their training towards market demands and have a direct input in internship and job matchmaking. For instance:

- The Women in Technology program focuses on ICT training as well as foundational skills such as team development, management, and leadership (see Case Study 5).
- The Egypt ICT Trust Fund helps provide ICT based solutions and skills to a variety of sectors and target populations, including people with disabilities, small and medium size entrepreneurs, and agriculture professionals. Their Youth Employment Generation Program provides ICT skills training, as well as basic business planning, communications, finance, and accounting skills. Training needs assessments guide curriculum development, and internship matchmaking supports applied learning (see Case Study 3).
- Paradigm Initiative Nigeria provides demand-driven ICT, entrepreneurship, and life skills training, to disadvantaged unemployed youth. Additionally, they provide support for internship and full-time employment placement, and a deferred tuition payment model enabling trainees to join the program free of charge (see Case Study 4).
- Catholic Relief Services' Information Technology Training Program provides youth with advanced ICT skills as well as soft skills training on teamwork, conducting a job search, interviewing techniques, and professional workplace interactions. ITTP has also created employer workshops that invite the participation of private-sector employers in designing training curricula to meet the needs of the market (see Case Study 9).
- Alashanek ya Balady in Egypt builds its training curriculum around a baseline market analysis, taking into account current needs in the service and manufacturing sectors. Following individual training on non-cognitive skills, trainees are either matched with relevant part time employment (often to be made permanent upon performance assessment) or provided with small loans to start their own business (see Case Study 19 in Annex I).

[28]UNCTAD. 2010.

[29]Ibid.

[30]Schmidt, J. P., and C. Stork. 2008. *Towards Evidence Based ICT Policy and Regulation: e-Skills*. Vol. 1, Policy Paper 3. Http://researchICTafrica.net

- The Afterschool Graduate Development Centre in Nigeria has a variety of training and matchmaking programs, often directly associated with potential employers' needs. Training emphasis is largely focused on equipping future business professionals and managers (see Case Study 18 in Annex I).

There are also initiatives to broaden access to ICT skills training, making it accessible to a larger demographic. For instance, Samasource is piloting an online soft skills training curriculum to expand its reach to an even larger number of disadvantaged youth. Indeed, research has shown that ICT – even just radio – can be a relatively easy way to expand access to training.[31] Meanwhile, the East Meets West Foundation and Passerelles Numeriques have partnered to create a scholarship program in Vietnam that supports 30 high school students to train as ICT technicians; in addition to in-depth ICT training, support is also provided to strengthen their English and other practical knowledge.[32]

Multi-stakeholder partnerships

UNCTAD highlights the importance of multi-stakeholder partnerships to foster ICT development. The private sector is a source of investment, innovation, and employment; it is crucial for both the public sector and other organizations to engage with private partners. In the ICT space, examples of successful Public Private Partnerships have already been seen in developing communications infrastructure; this collaboration should now expand to other sectors. Encouraging such relationships is particularly relevant to increasing youth employability and ensuring models are demand-driven, as employers have the best knowledge of their own skills needs and have a stake in supporting the growth of an adequately trained labor force. Additionally, a multi-stakeholder partnership also allows for greater scale and impact.

Promising examples of multi-stakeholder partnerships are found in a number of countries, including India, South Africa, Ghana, and Egypt. In these countries, the government has taken a lead in supporting skills development in partnership with the private sector, via both specific job training programs and large-scale sector training initiatives. Many successful partnerships also have payment incentives that seek to maximize post-training placement rates.

- Himayat is a government-supported skills training program for youth in Jammu and Kashmir, India. Training is provided to allow youth to obtain entry-level jobs in high-growth sectors (for instance, in BPO, retail, and hospitality). The training is provided by private and nonprofit firms, with payment to trainers occurring only when a student is placed and stays in a job for at least three months (see Case Study 8).
- The Monyetla Work Readiness Program in South Africa is designed to provide training and employment in the BPO sector. The initiative is publically funded, and training is provided by an employer-led consortium (which includes employers, recruitment agencies, and trainers). The model is entirely demand-driven, with the focus on training and placing at least 70 percent of youth in jobs within four months. The consortium receives its payment in two tranches, with 50 percent of the payment made only when at least 70 percent of each learning group completes the program and obtains employment (see Table A1, Annex 2).
- India's National Skill Development Corporation (NSDC)[34] is a Public Private Partnership launched in 2008 that aims to help fill India's growing need for more skilled manpower by supporting the creation of quality, scalable vocational training initiatives. NSDC identified 21 "key sectors" for growth in India, and is focused on supporting skills development and training in those areas. NSDC encourages the private sector to support skills training and development via providing loans, equities, and grants. It is also taking steps to ensure that quality standards are met: for instance, partners are required to ensure that employability of the workers they train is above 70 percent, and if this is not met, funding for the next year is cut.[35] Sector Skill Councils are being created for each priority sector to support the broader skills development policy environment, with tasks including developing skill competency standards, updating training delivery methods, and helping to standardize the accreditation and certification process. The lead organization for the ICT sector is the National Association of Software and Services Companies (AISECT[36]), and tasks include identifying and addressing

[31]UNESCO (United Nations Educational, Scientific, and Cultural Organization). 2012. EFA *Global Monitoring Report. Youth and Skills: Putting Education to Work*. unesdoc.unesco.org/images/0021/002180/218003e.pdf

[32]East Meets West Foundation. 2011. "Information Technology Careers Now Available for Impoverished Youth." Education News and Reports. www.eastmeetswest.org/page.aspx?pid=699.

[33]UNCTAD. 2010.

[34]See: National Skill Development Corporation. *An Approach Paper for Setting Up a National Skill Development Council*. http://nsdcindia.org/pdf/approach-paper-ssc.pdf.

[35]Skills Ahead. 2012. *Social Engineering Challenge: An Interview with Dilip Chenoy*. April. http://nsdcindia.org/pdf/nsdc-skills-ahead.pdf.

[36]See "AISECT Partners with NSDC to Empower Youth." 2012. Times of India, June 6. http://articles.timesofindia.indiatimes.com/2012-06-06/news/32077512_1_nsdc-national-skill-development-corporation-placements.

soft skills gaps, with AISECT contracted to train and place youth in jobs in the sector.

- The Ministry of Labor in South Africa established the Sector Education and Training Authority (SETA) initiative in 2005. Currently, SETAs cover 23 sectors, and coordinate skills development and job training, covering both the public and private sectors. The ICT SETA supports relevant training for employment in the sector; it prioritized the critical skills needed for sustainable growth, development, and equity. The SETA encourages Public Private Partnerships to support skills development, via "learnerships" (workplace learning programs) and other training schemes.[37]
- Ghana-India Kofi Annan Centre of Excellence in ICT (AITI-KACE) in Ghana began as a partnership of the Governments of Ghana and India in addition to several private contributors, and continues to serve as center for collaboration between public and private entities seeking to expand ICT competency in West Africa. The center has aligned with international tech corporations like Cisco and Oracle, as well as local Polytechnic tertiary education institutions in Ghana. Furthermore, it also provides basic ICT training to public sector officials (see Case Study 1).
- The RLG Institute of Technology has partnered with the Ghanaian Ministries of Youth and Sports, Education, and Women, Children and Social Protection on the country's National Youth Employment Program, which covers tuition costs for many trainees. Focused on developing the capacity of talented youth seeking to work in the ICT sector, RLG provides training based on current ICT trends, ensuring that trainees are adequately prepared to work as engineers, programmers and developers. Partnering with the government allows for a wider range of opportunity, enabling youth with limited financial resources to benefit from the Institute's training (see Case Study 17 in Annex I).
- Established by the Egyptian Ministry of Communication and Information Technology (MCIT) and the UNDP, the Egypt ICT Trust Fund partners with a wide range of stakeholders, both public and private. The Egyptian Ministry of Youth, for example, works in close partnership with the Japanese Government's Social Fund for Development, Microsoft Egypt, and other local government entities on their Youth Employment Generation Program. This collaboration not only allows for the fruitful sharing of lessons and best practices between organizations, but also ensures that training provided is directly relevant to market and policy needs, and facilitates opportunity matching for trainees (see Case Study 3).

The importance of multi-stakeholder partnerships and close relationships between the training provider and industry has also been confirmed by research conducted in the MENA region. An International Finance Corporation (IFC) study[38] identified four conditions for success for private providers of vocational education and training programs. First, close involvement with the industry via industry associations is key. Employers need to be closely involved in development of curriculum context as they are most aware of their needs and requirements. Second, there needs to be broad recognition of qualifications. Third, post-training placements should be prioritized, and indeed, some students may even be willing to pay for training if they have assurance of a job. Last, providers may need to develop innovative business models to keep costs low – for instance, via using an online training mechanism. Many of these principles are seen in the programs described earlier: close partnerships and job placements are prioritized in Himayat, NSDC, AITI-KACE, and Monyetla, while NSDC supports the development of standardized certifications.

Strategies to foster ICT training can also leverage broader reforms being proposed in technical and vocational education. There is an increasing move toward making upper-secondary education more accessible to the vulnerable and more relevant to the world of work. UNESCO's 2012 Global Monitoring Report recommends offering students work placements as part of the curriculum, focusing on transferable skills such as problem solving and ensuring that the technical and vocational education offered is closely linked to market demand.[39] All these steps can also go a long way toward strengthening skills development for work in the digital economy.

[37]For more details, see: MICT SETA (Media, Information and Communication Technologies Sector Education and Training Authority). Accessed Oct 2012. MICT SETA profile and ICT sector profile. http://www.mict.org.za/ ; and Schofield, A. 2010. *2010 ITWeb-JCSE Skills Survey*. ISETT SETA / Joburg Centre for Software Engineering. www.mict.org.za/downloads/2010_Skills_Survey_Report_v2_1.pdf

[38]This section draws heavily from International Finance Corporation. 2011. *Education for Employment: Realizing Arab Youth Potential*. http://www.e4earabyouth.com/downloads/IFCBook_A4_Online_Complete.pdf

[39]UNESCO. 2012.

IV. Next Steps

Given the growing role of ICT in Africa, it is vital to support skills training and employment opportunities in this sector. The most promising training models profiled share some similar features, as previously delineated:

- Many of these models are **demand-driven**. The skills training courses are designed with input from key industry players and employers, to ensure alignment between the skills that employers need and those in which youth are receiving training.
- Training is **holistic** and incorporates a mix of general and ICT skills; general skills training includes soft skills development and English language skills, while ICT training is a mix of technical skills dependent on the job sector. Entrepreneurship training is often a key component of these models, recognizing the potential for self-employment and business management opportunities for youth with basic ICT skills. Additionally, training often prepares youth for employment in **the broader ICT sector**.
- To reach scale, many programs engage in **multi-stakeholder partnerships**, in particular, many are Public Private Partnerships with financing and training provided by the public and private sectors respectively. Many also have built-in structures and incentives to maximize impact: for instance, payment for trainers is often tied to job placement rates.
- **Post-training job placement** is prioritized; commitments may be solicited in advance from employers, or youth may receive in-depth coaching and mentorship to find opportunities.

However, although our research has uncovered these characteristics, it is clear that many questions still remain and there is scope for further study in this area. Specifically, based on our study, we recommend four important next steps. The first two relate to better understanding the context in which these models operate, while the remaining two relate to fostering increased partnerships and communication among key stakeholders in this sector:

Increasing our contextual understanding of these models

1. **Deeper examination of cost per student and cost-effectiveness:** Our research indicated a wide variation in cost per student, with a range from $60/student to more than $1,500/student. However, more analysis needs to be done to both understand the cost of training in each program as well as their respective cost effectiveness. Understanding such data will not only aid in designing more effective, efficient programs, but will support investment by government and other stakeholders in this area. Moreover, it will also allow a better understanding of which components of successful programs have the potential to be replicated or moved to alternative learning platforms.
2. **Further exploration of models with potential for scale-up or replication:** A deeper study can be conducted of the more promising models identified in this study (both those featured in the case studies and identified in Tables A1 and A2 in the Annex), specifically to examine how best to replicate promising strategies or initiatives in different contexts. More information on employer demand, training structure, and unit costs will help us better understand which models may be best suited to create the largest impact in this sector.

Fostering increased partnerships and communication among key stakeholders

3. **Policy engagement and dialogue:** To continue to increase employment, foundations can play a key role by supporting partnerships and dialogues between employers, ICT training institutions, the public sector, and other stakeholders. Convenings can be held to share cross-country learning and experiences, with best practices developed to train and place youth in ICT-related jobs. Importantly, such convenings can also play a key role in connecting the right government stakeholders to adapt these lessons into policy.
4. **Examination of what exists or could be fostered in terms of ICT and related industry associations:** It will be important to build industry associations in order to engage employers with the training system. Such associations can help support the development of relevant training curricula and other materials.

These areas can be explored either as stand-alone components or as a holistic, comprehensive package. Our research indicates that while there are an array of innovative and successful models in a mix of regions – many of which were highlighted in this report – a gap still exists in our contextual knowledge of these models and better understanding of what makes a program successful, its precise cost, and how to scale components of successful initiatives in different contexts. Importantly, targeted convenings that bring together multiple stakeholders will be crucial to fostering dialogue that can lead to increased scale and effectiveness. In order to make an impact in the lives of vulnerable youth worldwide, it will be important to take proactive action along these areas to help close the skills gap.

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Annex I: Additional Case Studies

Promising ICT models in MENA and sub-Saharan Africa

Case Study 11: Egypt-at-Work	
Egypt-at-Work (Egypt)	
Summary	Egypt-at-Work[40] is an initiative of the Vocational Education, Training and Employment Program by the Mubarak-Kohl-Initiative (MKI-vetEP). The program seeks to use photography and digital media as means to promote gainful and acceptable employment for Egyptian youth by establishing meaningful interaction between employers and job seekers, who mutually benefit from effective placement. The idea is to familiarize Egyptian youth with the workplace through photographic job profiles and promotional videos. Activities include creating profiles of potential jobs and roles in which vocational training and opportunities are available, and promoting "interactive employability" through videos posing workplace scenarios to encourage work-appropriate behavior. Within this model, "learning facilitators" are trained in photographic techniques and encouraged to present the work of other Egyptians to youth who may be interested in pursuing those fields.
Training structure	As a stand-alone initiative, Egypt-at-Work provides training to youth on photography skills, who then utilize those new abilities to create photographic exhibitions, interactive games and public discussions on job profiles, exploring the diverse perspectives on what it means to be a craftsperson. The course goes into technical aspects of photography and image editing, but most of all emphasizes the important role that photography can play in observing and describing workplaces and the work process visually.
Partnerships	This program is conducted in partnership with the Mubarak-Kohl-Initiative and in cooperation with the German Government and the Egyptian Ministry of International Cooperation.
Employment sector	Training focuses on the photography and communications sectors. However, the outputs of Egypt-at-Work focus on Egyptian working men and women across many fields, showcasing engineers, craftsmen and women, media producers, printers, barbers and many other "blue collar" workers and their responsibilities.
Funding	Egypt-At-Work is financed by the German Federal Ministry for Economic Cooperation and Development, in collaboration with the Egyptian Ministry of International Cooperation.
Cost per student	Not available
Successes and challenges	One of the program's challenges is to overcome gender barriers in certain occupations. Through the exposure of different careers options, as well as the "Women at Work" and "Woman of the Month" series, Egypt-at-Work has aimed to highlight the working Egyptian woman and her many roles. Though these series have made an impact, public perception of certain occupations are still divided largely along gender lines.

Case Study 12: Emploi-Habilité	
Emploi-Habilité (Morocco)	
Summary	Started in 2010, Emploi-Habilité provides training to disadvantaged youth in Morocco, focusing on industry-demanded technical and life skills. Once trained, youth (15-25 years old) are provided with internship and job placement support, often connected to jobs in the hospitality/tourism sectors. Partnering with the Ministry of Tourism, the program seeks to scale-up and become part of public sector institutions, ensuring long-term sustainability. It has been implemented in Tetouan by the Sedraoui Foundation, and in Casablanca by CFA Jaber Ibnou Hayane. A new phase in cooperation with the Ministry of Tourism will reach five regions initially and will then be extended to all regions where the Ministry operates CFAs.
Training structure	The program focuses on industry-specific technical skills, IT, and broader life skills. An essential element of the program is an adapted version of the International Youth Foundation's Passport to Success training which is also delivered, focusing on a range of skills, including non-cognitive ones, such as confidence, teamwork, goal setting, time management, and many others.

[40]The Egypt-at-Work program was completed in 2011, but is highlighted here as an innovative way to both train youth as well as expose them to the workplace. As a follow-up to the MKI-vetEP initiative, the Employment Promotion Programme (EPP, http://epp-egypt.net) was launched in 2011, to provide guidance and support to policymakers and stakeholders seeking to bridge the skills gap among youth in Egypt. Though EPP does not provide training directly to youth, it facilitates the management of transitions from school to employment, providing support to public schools and NGOs' employment facilitators, and also collecting and divulging context specific labor market information to guide unemployed youth, employers and policymakers.

Case Study 12: Emploi-Habilité *(continued)*	
Emploi-Habilité (Morocco)	
Partnerships	Emploi-Habilité is a program run by the International Youth Foundation (IYF) and, since September 2013, the Moroccan Ministry of Tourism, in association with several partners. These include Silatech, the Sedraoui Foundation, CFA Jaber Ibnou Hayane. Al Jisr, Education for Employment Foundation, Mjid Foundation, GE Foundation, Microsoft and the Moroccan Ministry of Education.
Employment sector	The program focuses on the training youth for work in the hospitality and tourism sectors.
Funding	In addition to the supporting partners mentioned above, Emploi-Habilité is being expanded through funding from the Qatari Foundation, and Silatech. It is looking for additional support to achieve sustainability in its new phase with the Ministry of Tourism.
Cost per student	Cost is approximately $1,000 per beneficiary currently, and will decrease below $400 per beneficiary in the new phase with the Ministry of Tourism.
Successes and challenges	The program has helped place 570 trained youth in internships and helped 261 previously unemployed trainees find jobs relevant to the tourism and hospitality industries. Though it is clear that there is significant demand in the hospitality sector, there is also scope for the program to liaise with other industries, allowing trainees to enter a greater variety of sectors.

Case Study 13. Ghana Multimedia Incubation Center	
Ghana Multimedia Incubation Center (Ghana)	
Summary	The Ghana Multimedia Incubation Center (GMIC) was created by the Government of Ghana to promote ICT entrepreneurship development through the incubation of ICT business start-ups. GMIC provides support to start-ups and young businesses in the ICT sector that have innovative ideas, to help them develop into mature and sustainable organizations capable of employing people in this sector. GMIC provides its tenants with office space, utilities, Internet access, and a shared resource center to assist with the initial growth of the company. GMIC has also established an in-depth mentoring process for its tenant companies, providing capacity building from experts in entrepreneurship and consulting, on issues such as business plan development, project management, and marketing. GMIC is currently incubating 13 tenant companies. The center's overall objectives are to promote entrepreneurship and increase employment in the ICT sector, develop the adequate human resources to attract outsourcing business, increase job creation in the BPO sector, and increase linkages with other institutions.
Training structure	GMIC hosts the Business Process Outsourcing Training Center, which trains youth in the skills necessary for employment in the BPO sector. The long-term goal is to induce increased numbers of multinationals to outsource some of their core business processes to Ghana. The training center provides youth with skills for jobs as call center operators, medical transcriptionists, and data entry clerks. Training focuses on data processing and capturing, call and contact center operations, and medical transcription. The center runs two training courses a day from 10 a.m. to 2 p.m. and 3 p.m. to 7 p.m., Monday through Friday. The course duration for call-and-contact center as well as data processing and capturing is two months, and ranges from four to six months for medical transcription.
Partnerships	GMIC partners with the United Nations Development Fund, the Ghanaian Ministry of Communications, and the Kwame Nkrumah University of Science and Technology.
Employment sector	The model is unique in that it takes a two-pronged approach to creating employment in the digital economy and preparing youth for jobs in that sector. Through its incubation program, GMIC works to increase the number of successful ICT companies in Ghana, which as a result will increase the employment opportunities available in that sector. Through its BPO Training Center, GMIC provides rigorous skills training for young Ghanaians so that they may take advantage of the increased opportunities in that sector.
Funding	GMIC receives support from the United Nations Development Programme and from the Ghanaian government through the Ministry of Communications.
Cost per student	Not available.
Successes and challenges	GMIC is a relatively new model of ICT business incubation, and one that does not have much precedent in Ghana. Despite that, it has successfully incubated several ICT companies since its inception.

Case Study 14. GEMS Education, Everonn Education, and Tony Elumelu Foundation	
GEMS Education (India and Nigeria)	
Summary	GEMS Education is a leading international education company with a philanthropic arm, Varkey-GEMS. Together, they have become a strategic investor in Everonn Education, one of the leading educational companies in India that focuses on providing ICT-enabled education. Everonn provides digitized content to schools even in the most remote parts of India, seeking to both improve the quality of education offered through the use of ICT and familiarize students with computer technology. GEMS and Everonn recently partnered with the Tony Elumelu Foundation in Nigeria to provide skills development and technical training programs. That program seeks to address both youth unemployment and the vocational skills gap facing the Nigerian labor market.
Training structure	Everonn has developed a successful and replicable model for providing innovative, low-cost vocational and technical education to improve students' skills and increase their employability in a range of sectors ranging from retail services to plumbing. In India, Everonn Skill Development Limited (ESDL) has more than 100 courses in nine sectors offered at various locations. It offers both entry- and advanced-level courses. Specifically within ICT, ESDL offers a range of courses taught through an industry-led model of learning, where the skills imparted match industry needs. The model, under the guidance of Everonn and with the support of the Tony Elumelu Foundation, will now be replicated in Nigeria.
Partnerships	GEMS and Everonn's partnership with the Tony Elumelu Foundation is a key example of how education companies' resources and expertise can be leveraged to provide skills training in partnership with local organizations. The program itself will establish partnerships with innovative technical partners as well as other philanthropists and impact investors.
Employment sector	Relationships with private-sector employer partners will be developed to ensure that the training program is meeting market demand and to create apprenticeship opportunities. Focus will be on the industrial and construction sectors.
Funding	The program will be implemented and supported by the Tony Elumelu Foundation, the Everonn Education, and GEMS.
Cost per student	Not available.
Successes and challenges	This innovative partnership is currently in its early stages, and Everonn and the Tony Elumelu Foundation will have to work closely to ensure the successful transfer of Everonn's model created for the market in India to the one in Nigeria.

Case Study 15: NIIT Nigeria	
NIIT Nigeria (Nigeria)	
Summary	NIIT Nigeria has been present since 1999, when it set up its first education center in Ikeja, Lagos. Since then, the company has grown to more than 19 operational centers in several regions within Nigeria. It has provided training to over 120,000 students over the past 13 years, focusing on preparing youth for lucrative ICT careers through courses mapped to industry requirements.
Training structure	Training programs are divided into three broad formats: Rapid Employability, Career Builder and Industry Competitiveness. Rapid Employment programs tend to be only 99 days long, and include techniques such as "work simulations" which allow students to execute practical skills within a guided environment. Ensuring a broad coverage for all interests, this program includes courses in a variety of different fields, including Hardware, Web Design and Development, and Information Systems management. The Career Builder track offers intensive two-year diplomas in IT, serving as a practical alternative to other higher education institutions for those seeking a career in information technology. Software and network engineering are two examples of these diploma-track courses. Industry Competitiveness programs offer 4-6 month courses on targeted certifications, mapped to global IT certification exams, on the latest technology and skillsets. This includes certificates in Linux programming and administration, Oracle database administration, as well as other broader diplomas on web development and infrastructure management.
Partnerships	Technology partners include Oracle, Cisco, and other providers of IT.
Employment sector	Specifically focused on training youth to work in the IT sector.
Funding	Funding comes from individual donors, as well as sponsors ranging from local government entities; private foundations and corporations, such as the CITI Foundation and Cisco Systems Inc; and international aid providers like USAID.
Cost per student	Fees vary according to the program and certificate sought. However, NIIT does offer partial scholarships, which are awarded based on scores from its national "scholarship test", held yearly.
Successes and challenges	NIIT trains over 16,000 students in Nigeria each year. It will be important to ensure consistency in quality as NIIT continues to expand its reach.

Case Study 16. Professional Development Foundation

Professional Development Foundation (Egypt)	
Summary	The Professional Development Foundation (PDF) was founded in 1998 to ensure that Egypt's workforce was sufficiently trained to compete in a globalized 21st-century economy. PDF runs three programs: the Communication and Information Technology (CIT) Academy, the Youth Academy, and the Center for Executive Excellence (CEE, an executive training program). PDF also serves as the local implementing partner for TechSoup Egypt, a nonprofit that provides other nonprofits with technology products. CIT Academy provides training and certification in one of three operating systems (Microsoft, Oracle, and Alcatel), and all three are rounded out with an integrated business skills module. It graduated over 1,000 students from 2005 to 2009 and has achieved a 100 percent employment rate for students who successfully complete training and receive certificates. Since 2000, the Youth Academy has prepared more than 50,000 Egyptian youth for the workforce by offering a package of work/life skills training, career counseling, and employment services. The program expands access by offering a wide range of e-learning programs in Arabic and English. Meanwhile, CEE has graduated nearly 2,000 midlevel and senior executives since its inception in 2003.
Training structure	CIT Academy offers three tracks of fully-funded scholarships – Microsoft, Oracle, and Alcatel – that provide students with training and internationally recognized certification for specific technical skills as defined by industry needs. An integrated business skills module complements each track, providing students with skills for the workforce in five core areas: career development, business correspondence, presentation, communication, and negotiation skills. Training modules range from two weeks to four months. The Youth Academy provides two professional development modules (one week or four months) that include subjects such as business English, ICT business skills, job entry skills (such as resume writing and interview preparedness), character development and workplace values, and basic business skills such as accounting and financial planning.
Partnerships	PDF maintains strong partnerships with the private sector, academic institutions, and civil society organizations. PDF partners with Dale Carnegie Training on all three of its training programs (CIT, Youth Academy, CEE). Private-sector companies such as Microsoft, Alcatel, and Shell provide scholarships and other support for these programs, including inputs for a demand-driven curriculum based on industry needs. Management schools such as the London School of Business and the Indian Institutes of Management provide support to CEE as well. PDF also partners with Amideast, the Center for Creative Leadership, and Berlitz.
Employment sector	CIT Academy trains students for jobs in the ICT and mobile technology sectors, including database and systems management and security, java programming and application building, and telecommunications engineering. Youth Academy prepares students for jobs in the industrial sector, small businesses, and entrepreneurship opportunities. Students have been placed in jobs at a range of Egyptian and multinational companies including Americana, Coca Cola, Chloride, El Sewedy Cables, Mo'men Group, RAYA, Nile On Line, New Horizons, Xceed, Citadel Capital, and BP. CEE has trained executives across a spectrum of Egyptian employers; the majority are in manufacturing, followed by health/pharmaceutical, government, and banking.
Funding	PDF is a nonprofit organization that receives funding and in-kind services support from a wide spectrum of Egyptian businesses and international corporations, including Microsoft, Alcatel, and Shell, as well as individual donations from leaders in the private sector.
Cost per student	Not available.
Successes and challenges	The model ensures that students are well placed for employment due to the integration of internationally recognized industry certification with the comprehensive business skills and employment preparedness training modules. They also benefit from the reputation of the PDF training module.

Case Study 17: RLG Institute of Technology

RLG Institute of Technology (Ghana)	
Summary	The RLG Institute of Technology is an initiative of RLG Communications, a Ghanaian-owned company (and subsidiary of Agams Holdings) engaged in producing mobile handsets, laptops tablets, LCD monitors and other electronic communication devices. The institute has centers located throughout the country, providing training to thousands of youth in ICT-related disciplines. Course instructors aim to turn trainees into fully qualified engineers in Mobile and Computing Technology.
Training structure	Training programs are designed to reflect current trends in ICT and tech developments, including mobile phone repair and assembling, sales and service delivery skills, computer programing, software engineering, and entrepreneurship. Training of trainers is also conducted, creating employment for future ICT trainers all over the country, and spreading ICT skills widely.
Partnerships	The RLG Institute of Technology is part of the National Youth Employment Programme, in partnership with Ghana's Ministry of Youth and Sports, the Ministry of Education, as well as the Ministry of Women, Children and Social Protection.

Case Study 17: RLG Institute of Technology *(continued)*	
RLG Institute of Technology (Ghana)	
Employment sector	Trainings are largely conducted for employment in the ICT sector, but also include some broader entrepreneurial skills.
Funding	The RLG Institute and its training centers are funded through RLG Communications, as well as tuition payments made either by trainees or through Ghana's National Youth Employment Program.
Cost per student	N/A
Successes and challenges	The RLG institute has trained over 30,000 youth from 10 different regions in Ghana on ICT skills. Many of its graduates will become instructors at the institute's 46 centers around the country, which have been set up as an attempt to reach remote and rural regions.

Promising Non-ICT models in MENA and sub-Saharan Africa

Case Study 18: Afterschool Graduate Development Centre	
Afterschool Graduate Development Centre (Nigeria)	
Summary	AGDC is social enterprise that functions as a career center, providing university graduates in Nigeria with programs and services geared towards developing professional competencies and employment skills. The Centre is located in Lagos, and holds several courses and seminars on career solutions, guiding Nigerian youth toward economic self-sufficiency, and young graduates toward better workplace skills. Usually, training programs are also followed by "pay-it-forward" projects, in which trainees apply and share newly-acquired skills with their communities. Additionally, internship and employment matchmaking, in cooperation with partner organizations and corporations, is an important feature of AGDC's work.
Training structure	AGDC has a variety of different training and employment matchmaking programs, including: career direction, employability and work readiness training, recruitment and talent sourcing, enterprise training youth civic engagement for national development, and more. These programs are often delivered alongside a client or partner. The Samsung Real Dreams Program, for example, is a four-week long management training session for entrepreneurs and professionals seeking work in the formal sector. Working in partnership with Corona Schools, AGDC implemented the Corona I-Teach Program, seeking to better equip young graduates entering the teaching profession by familiarizing them with 21st century classroom practices. After a successful pilot, this program has been continued. The Workplace Intelligent Nigerian Graduates Symposium (WINGS), consists of an Employability and Enterprise conference, followed by three-weeks of training on relevant skills for those entering the Nigerian employment and business markets. Training topics include: "What every CEO needs to know", resume writing, business communication, emotional intelligence, financial intelligence, and young entrepreneurial skills.
Partnerships	AGDC works with the MTNF Science and Technology Scholarship Scheme, Corona Schools Trust Council, the TY Danjuma Foundation, the Lagos State Government, Lagos State Technical & Vocational Education Board (LASTVEB), Federal ministry of Finance, the First Bank of Nigeria, and the Bank of Industry. It has previously worked with the British American Tobacco Graduate Recruitment Program, DIAGO, and Goldman Sachs on its Orientation and Workplace Readiness Program for African Interns.
Employment sector	The focus is on equipping youth to work in both the private and public sectors, as well as SME's, start-ups and the education sector.
Funding	AGDC partners with private and public sector organizations, as well as with non-governmental donor organizations. It focuses on well identified projects which are either specific and time-bound or recurring/perpetual depending on project objectives, availability of funding, desire of the sponsoring partner and an objective external evaluation of its impact, sustainability or return on effort.
Cost per student	The cost is dependent on the nature and duration of the project. Average cost per beneficiary of employability training is $530 (inclusive of study material, lectures, simulations and practical sessions, psychometric testing and personal counseling, and lunch). The enterprise training is adapted for television and therefore has an extended reach. Exact cost per beneficiary is therefore difficult to determine, but certainly reduced by the breadth of its reach.
Successes and challenges	Since 2008, the Samsung Real Dreams Program has trained over 450 graduates, 70% of whom were successfully employed within six-months after completing training. This level of impact has strengthened the organization's commitment to adequately preparing youth for the workplace. In order to further expand their outreach, AGDC is looking to innovative media and online approaches to disseminate their content. Additionally, it is looking to overcome the lack of vocational and technical skills training available in Nigeria by working with experts in specific vocational fields to develop new programs.

Case Study 19: Alashanek ya Balady- Association for Sustainable Development

Alashanek ya balady - Association for Sustainable Development (Egypt)	
Summary	Started in 2002 as a student club at the American University in Cairo, Alashanek ya Balady (AYB) seeks to empower Egypt's unemployed youth, focusing primarily on those with an intermediate level of education, with skills that will allow them to improve their livelihoods. The organization offers training, personal coaching, formal employment opportunities, and loans; private and public partnerships are also fostered. The program first performs a market analysis and needs assessment of youth, then creates a curriculum and employability services built to address those needs (including coaching and training), and finally supports job matching and provides micro-finance to small businesses.
Training structure	A specialized training curriculum is guided by a market analysis and youth needs assessment. Skills gaps and industry actors in need of qualified workers are identified. Participant are interviewed and selected based on their interest, economic status, and future plans. Once selected, they complete a training module on specialized/technical skills (sales, administrative work, etc.); life skills (communication, leadership, ethics, CV and interview skills); and vocational skills (relevant to their high-demand industry of interest). Participants then undergo a job matching process or receive micro finance to establish their own small business. Job matching includes negotiation with employers to ensure fair wages and treatment, as well as coaching on labor rights for beneficiaries. Micro finance beneficiaries receive project management and vocational training, and undergo self-driven feasibility studies, which must be completed prior to the disbursement of loans, which are given out with minimal service fees.
Partnerships	To date, AYB has worked with 47 employer partners in Egypt. This diverse list includes large multi-nationals such as Vodafone and PepsiCo, as well as local corporations, shopping centers, factories and workshops. AYB has also developed implementing and funding partnerships with both public and private institutions, inside and outside Egypt.
Employment sector	Employment partners are largely in the manufacturing sector. Micro finance businesses vary between the retail and service sectors, including grocery and clothing shops, as well as hair salons, mobile maintenance shops, and others.
Funding	AYB is largely donor funded, counting on contributions from the Drosos Foundation, the International Youth Foundation, the Sawiris Foundation for Social Development, the MasterCard Foundation, and many others.
Cost per student	The average cost for soft and technical skills development is 400-500 EGP (approximately $60-70) per participant, while for vocational training, the cost ranges from 850-4,000 EGP ($120-580), depending on the type of training and materials required.
Successes and challenges	AYB has served nearly 15,000 Egyptians a year since 2011, providing training employment matching and loans. Additionally, the Education and Awareness program, which provides health and nutrition guidance as well as career help to youth, has served nearly 146,000 children and adolescents. Notably, AYB has expanded its reach significantly from its days as a student organization at AUC, developing a franchise system that allows for the replication of their program in higher education institutions throughout Egypt - currently there are 13 active franchises. While impressive, this expansion could also be challenging to manage. It will be important to ensure that AYB's model is followed effectively in each franchise and that valuable connections are established with local industry stakeholders.

Case Study 20: AMIDEAST	
AMIDEAST (Morocco, MENA)	
Summary	AMIDEAST has programs in several different countries in the MENA region, including Egypt, Iraq, Jordan, Kuwait, Lebanon, Oman, Saudi Arabia, Tunisia, UAE, the West Bank and Gaza, and Yemen. In Morocco, the organization offers other certified trainings and opportunities to those lacking the skills they need to progress economically. The AMIDEAST-OCP Groupe initiative, seeks to alleviate the problem of youth unemployment in Morocco by targeting disadvantaged youth from Rabat, Casablanca, and Laayoune, with specialized training meant to prepare them for the workforce. Other programs include a Project Management Professional course and an Arab Women's Entrepreneurship Project (AWEP) where a group of female entrepreneurs from underserved backgrounds are provided with training and support for new businesses.
Training structure	The training program for AMIDEAST-OCP is 5 months long, focusing on language and communication skills for the workforce. This includes an intensive introduction to business English, geared towards passing the Test of English for International Communication (TOEIC). In addition, trainees also receive training on basic business skills as well as non-cognitive skills, such as self-confidence. As the 5-month training comes to a close, the 10 best trainees in each region, based on TOEIC scores and instructor assessments, are placed in internships with companies in Rabat and Casablanca. AMIDEAST's broader Professional Training combines English and French language skills with workplace skill training. Training courses are facilitated by experienced trainers, and tailored to companies' specific needs. Training topics available include: project management, team building, communication and negotiation skills, financial analysis, marketing, and many more. The AWEP focuses on providing an overview of basic business skills, as well as instructions on how to register and operate a business locally. Topics covered include customer service fundamentals, sales, basic accounting, risk assessment and strategic planning. After training, mentors provide guidance and support as entrepreneurs implement their business plans.
Partnerships	AMIDEAST-OCP Groupe is done in partnership with OCP Groupe, and local associations that assist in the selection process. The AWEP counts on its partnership of the CITI Foundation.
Employment sector	Trainings generally focus on Morocco's robust service industry, but also engage with small business entrepreneurs.
Funding	Funding comes from individual donors, as well as sponsors ranging from local government entities, private foundations and corporations, such as the CITI Foundation and Cisco Systems Inc., and international aid providers like USAID.
Cost per student	Not available
Successes and challenges	Overall, AMIDEAST has provided English language and professional skills training to over 68,000 students and professionals. As it continues to work throughout the MENA region, AMIDEAST may want to consider engaging more directly with public policy makers, as this may permit a better understanding of market needs and permit further scale-up.

Annex II

Table A1. Promising models in MENA and sub-Saharan Africa

Name of organization	Primary country of operation	Summary of program/model	Skills/training focus	Target population	Funding model
Adept Technologies	Kenya	Adept Technologies seeks to create employment for qualified, trained women and youth in Kenya, by providing jobs in the business process outsourcing (BPO) service sector.	Transcription and data entry services	Trained university and college graduates who are women and youth aged 18–35	Private companies, corporations, individual clients
AfriHUB	Nigeria	AfriHub has 14 centers across Nigeria and offers ICT training and a variety of technology courses	ICT training	Youth, professionals	Not available
AITEC Africa	Kenya, Nigeria, South Africa (and others)	AITEC Africa focuses on ICT publishing, event management, professional development, and training in Africa. It has been a market leader in terms of spreading knowledge on the Internet, and spreading computing and telecommunications across most of English-speaking Africa. AITEC organizes leading conferences, exhibitions, and training sessions for the ICT community in Africa.	ICT training	ICT community in Africa	Not available
AITI (Ghana-India Kofi Annan Centre of Excellence in ICT)	Ghana	AITI offers graduates of tertiary institutions, working professionals, and other individuals specialized ICT training at three levels (Certificate, Diploma, and Professional certification). Courses range from basic computer and commercial platform use, to web development.	ICT training, including: Cisco and Oracle	Graduates of tertiary institutions and working professionals	Tuition fees, partnership with international businesses and organizations.
Alashanek ya balady - Association for Sustainable Development	Egypt	Promotes youth engagement in sustainable development through creating innovative models applicable on a regional level. Through a number of different programs, the organization offers training, personal coaching, formal employment opportunities, and loans. Programs first perform a market analysis and needs assessment of youth, then create curricula and employability services around those needs, including coaching and training, and the programs culminate with job matching and micro-loans to small businesses.	Technical, vocational and non-cognitive skills	Impoverished communities and unemployed youth	Bilateral partners
AMIDEAST-OCT	Morocco/ Egypt	This initiative targets disadvantaged Moroccan youth from Rabat, Casablanca, and Laayoune, and helps them receive specialized training to prepare them for the workforce. The five-month-long training program focuses on language and communications skills, including intensive instruction in business English and basic business skills. The 10 best trainees are placed in internships with companies in Rabat and Casablanca	Professional, non-cognitive and entrepreneurial skills	Youth	AMIDEAST (U.S Non-profit)
Arid Lands Information Network (ALIN)	Kenya, Tanzania, Uganda	ALIN seeks to improve the livelihoods of arid land communities in East Africa through the delivery of practical information using modern technologies with emphasis on agricultural practices and climate change adaptation. This revolves around community-based maarifa (knowledge) centers. These are local hubs that promote universal access to ICT opportunities, local content creation and exchange, e-services, and BPO.	ICT and BPO. Information related to agricultural practices and climate change	Rural communities	Foundations, nonprofits, and independent organizations
Daproim Africa	Kenya	Daproim provides employment to university and high school graduates from low-employment areas through its campus connect program. This program allows university students to work remotely for Daproim in BPO service provision, thereby gaining skills and income.	Data processing and information management	Underprivileged university and high school graduates	Seed funding, private companies, and corporations

Table A1. Promising models in MENA and sub-Saharan Africa					
Name of organization	Primary country of operation	Summary of program/model	Skills/training focus	Target population	Funding model
Digital Bridge Institute	Nigeria	DBI serves as a focal point for human resource development and workforce capacity building, as well as research drive on matters relating to ICT in Nigeria and Africa in general. It offers a hands-on engineering and technical training program for professionals and practitioners in the telecommunications and IT industry, provided through professional courses and certificate programs.	Technical and hands-on ICT training	Postgraduates, IT and telecommunications professionals and practitioners	Revenues, Tuition
Digital Divide Data (DDD)	Kenya, Cambodia, Laos	DDD provides disadvantaged youth with employment by equipping them with education and training to enable them to take on roles in the BPO industry. Students are trained for three to eight months in basic computer and English skills, and then employed by ICT outsourcing companies. DDD also provides these workers with scholarships to attend university, and DDD employees spend half their day at school, earning degrees in three to four years.	BPO, data entry, English skills	Disadvantaged high school graduates	Corporations, foundations, and donor funding
Digital Opportunity Workshop	Morocco	High school dropouts are trained on computer repair and refurbishment, with IT companies donating old computers. There is a 4 month training program, which also emphasizes life skills, followed by 2 month internships. Refurbished computers and repair services are offered to schools and NGOs for a fee.	IT maintenance and repair	Youth	NA
Education for Employment (EFE)	Egypt, Tunisia, Morocco, Jordan, Palestine, Yemen	EFE is an innovative network of locally run, affiliated not-for-profits that seek to provide youth employment in the Middle East and North Africa through comprehensive skills training. The strength of EFE lies in its demand-driven model, whereby it connects employers directly with the trained workforce that they seek. EFE actively identifies sectors of the economy with high growth and employment potential but that lack adequately skilled workers, and it trains youth with the specific skills required to obtain job placements in such industries.	Vocational and ICT	Unemployed youth	Foundations, private companies, corporations, donor funding
Egypt ICT Trust Fund	Egypt	The main objective is to build an information society capable of capitalizing on the emerging knowledge revolution. It supports many different programs, including 'ICT for Youth Employment', where the goal is to introduce a capacity building program that trains youth to meet labor market requirements.	ICT and entrepreneurship training	Youth	Bilateral partners
e-Learning Competence Center (eLLC)	Egypt	Purpose is to act as a hub for the integration, development and dissemination of e-Learning content of relevance to the Egyptian market. The ELCC's web-based curriculum is a unique synergy of subject experts and the Center's e-Learning expertise, spanning instructional design, creative visual design, and software design techniques. Courses are online, and include an Entrepreneurship Education Program, which focuses on non-cognitive skills.	ICT and non-cognitive skills	Broad	Fees, Cisco, Government
ENSET Mohammedia Academy	Morocco	The training provided covers technical industrial and commercial techniques. ENSET Mohammedia also provides continuing education programs for young graduates, teachers and businesses. In addition to gaining networking skills through hands-on activities, students at ENSET also receive soft skills training as they prepare to enter the workforce.	Technical, commercial and soft skills	Women, youth, graduates	Bilateral partners (e.g. Cisco)
GEMS Education	Nigeria	GEMS Education, a leading international education company with a philanthropic arm, have partnered with Everonn, an Indian educational company, and the Tony Elumelu Foundation in Nigeria to provide skills development and technical training programs. This nascent program seeks to address both youth unemployment and the vocational skills gap facing the Nigerian labor market.	Technical and vocational	Unemployed youth	Foundations and private corporations

Table A1. Promising models in MENA and sub-Saharan Africa					
Name of organization	Primary country of operation	Summary of program/model	Skills/training focus	Target population	Funding model
Ghana Multimedia Incubator Center	Ghana	The Ghana Multimedia Incubator Center promotes ICT entrepreneurship development through the incubation of ICT business start-ups and develops ICT skills under the government's ICT for Accelerated Development initiative. The Ghana Multimedia Incubator Center also hosts the Business Process Outsourcing Training Center. The BPO training center is concerned with equipping young Ghanaians with the skills necessary for inducing multinational companies to outsource some of their core business processes to Ghana. The training center gives candidates the skills needed to become call center operators, medical transcriptionists, and data entry clerks.	Data transcription and data entry	Unemployed youth and companies	Government and donor funding
Invincible Outsourcing	South Africa	Invincible Outsourcing is a socially responsible outsourcing company in South Africa. The model trains students in ICT and BPO skills to be able to take up a job in a call center.	BPO	Students	Revenue and donor funding
JANA	Global	This program connects workers in developing countries through mobile phones or the Internet, providing them with local knowledge sourcing or basic BPO tasks in return for payment in the form of airtime credit or mobile money.	Mobile work	Developing countries	Donor funding
m2Work	Global	m2Work is a worldwide joint project of infoDev and Nokia's Ideas Project. infoDev is a global partnership program within the World Bank, focusing on technology entrepreneurship and job creation. m2Work works to fuel the race for strong ideas in this area and to spark a goal-oriented, global discussion on mobile microwork. infoDev will also guide the best mobile innovators to market to execute their vision for a mobile application start-up.	Mobile work	All	Joint project supported by infoDev and Nokia
MobileWorks	Global	MobileWorks is a socially responsible crowdsourcing system that provides work to people in developing countries that can be done using their mobile phones or computers. Work times are flexible, and workers come from a variety of different geographic areas and backgrounds.	Mobile work / crowdsourcing	All	Corporate investment
Monyetla Work Readiness Programme	South Africa	The Monyetla Work Readiness Programme was designed to accelerate training for entry-level jobs in South Africa's BPO industry. It is demand led, seeking to ensure that the training provided is aligned with employer needs. The model includes the training of one Monyetla supervisor or team leader for every six learners.	BPO	Youth	Public
NetHope	Kenya	NetHope's work in capacity building targets skills development in program workers as well as ICT professionals and unemployed youth in the developing world. Prospective interns apply and undergo an interview process with hopes of being selected to participate in the six-month program. Each selected student will receive classroom instruction as well as a hands-on ICT internship with humanitarian organization. The goal is to prepare students for full-time employment upon graduation as well as to address local demand for skilled ICT professionals.	ICT training	Unemployed youth and ICT professionals	Donor funding, corporations, and foundations
NIIT	Ghana / Nigeria	NIIT has centers in Ghana and Nigeria and offers advanced training curriculum, including "Mastermind Series of Program" which is offered worldwide. Courses range from a BSc in Informational Technology, to professional certification courses in Microsoft Software, Oracle developing and Desktop Publishing.	ICT technical training	Youth, graduates	Partnerships, fees.
Paradigm Initiative Nigeria (PIN)	Nigeria	Established in 2007, Paradigm Initiative Nigeria (PIN) is a social enterprise that seeks to facilitate economic opportunities for disadvantaged young people through ICT and entrepreneurship training.	ICT, entrepreneurship and non-cognitive skills	Youth	Deferred Tuition

Table A1. Promising models in MENA and sub-Saharan Africa					
Name of organization	Primary country of operation	Summary of program/model	Skills/training focus	Target population	Funding model
Preciss International	Kenya	Preciss International provides on-site training and part-time employment to university students, young mothers, and recent graduates in partnership with Samasource.	Online research, data processing, subtitling, transcription	Unemployed youth and women	Donor funding
Professional Development Foundation (PDF)	Egypt	The Communication and Information Technology Academy provides ICT training to students to better prepare them for the workforce. One of PDF's key programs is its Youth Academy, which seeks to serve Egyptian youth at large by offering training programs and scholarships to develop the skills needed to enter the workforce. The program offers a wide range of e-learning programs in Arabic and English. PDF also has three ICT programs that provide training in Microsoft, Oracle, and Alcatel.	ICT training: Microsoft, Oracle, and Alcatel	Professionals and recent graduates	Corporations and foundations
RLG Institute of Technology	Ghana	RLG Institute of Technology is engaged in capacity building and training in collaboration with the Ministry of Youth and Sports as part of Ghana's National Youth Employment Program (NYEP). Training programs are designed to reflect current trends in ICT and tech developments. Training is conducted via fee-enrollment or through NYEP. In 2012, 30,000 youth began a 6-month ICT training program, where they will be taken through basic computer skills, software, hardware and entrepreneurship. The trainees will also have the benefit of learning mobile phone and computer repairs. Also, some graduates of the program will become instructors to teach in the 46 centers of the institute around the country. Late in 2012, a program began to train 50,000 teachers in ICT centers all over the country.	ICT skills and some entre-preneurship training	Youth, graduates, unemployed	Revenue (fees), partnership with NYEP.
Samasource	Kenya, South Africa, Uganda, India, Pakistan, Haiti	Samasource is a social enterprise that breaks down digital work from large companies into small tasks, or microwork, that can be completed by women and youth with basic English skills and a few weeks of training at their partner centers.	Computer-based micro-work	Unemployed youth and women	Corporations and foundations
Techno Brain	Egypt, Kenya, South Africa, Tanzania, Ethiopia, India, Malawi, Mozambique, United Arab Emirates, Uganda, the United States, and Zambia	Techno Brain provides quality ICT training, and partners with New Horizons, a large ICT training company, to develop skilled ICT labor in Africa. Techno Brain provides ICT solutions and products in enterprise business, identity management, ICT infrastructure, ICT consulting, and business intelligence/data warehousing practice areas.	Online research, data processing, subtitling, transcription	Youth and professionals	Revenues
TechSoup Global	Global	TechSoup Global helps nonprofits globally to acquire and use ICT in order to heighten their impact. TechSoup Global's nongovernmental organization partners are a network of organizations connected through a common online platform, enabling a socially responsible supply chain for technology products and support. Each partner offers a localized version of a common global technology assistance program and local services that increase benefits for disadvantaged individuals (e.g., through ICT training for people with disabilities).	ICT	Nonprofits	Donor funding
Women in Technology (WIT): Microsoft	Morocco, Bahrain, Iraq, Jordan, Lebanon, Oman, Saudi Arabia, United Arab Emirates, Yemen.	WIT is a program run by Microsoft that seeks to empower women and increase their participation in the workforce by providing them with training in business planning, professional development, and information technology. The program is implemented in collaboration with local partners in each of the nine countries. Microsoft has donated its Unlimited Potential Curriculum to WIT in order to provide access to high-quality ICT training.	Standardized ICT training, business planning, and professional development	Women	Donor funding

Table A1. Promising models in MENA and sub-Saharan Africa

Name of organization	Primary country of operation	Summary of program/model	Skills/training focus	Target population	Funding model
Youth Empowerment & ICT Foundation	Nigeria	A non-governmental organization, which focuses on improving the socio-economic welfare of Nigerian youth by inspiring and motivating them to embrace ICT. This initiative holds annual Youth Empowerment conferences, seminars, and programs seeking to address the most pressing youth issues in Nigeria. Activities are wide-ranging, including Internship Integration programs, scholarship initiatives, ICT Seminars, and the Youth Employability Project, which focuses on non-cognitive skills as a means of making youth more employable.	Non-cognitive and ICT skills	Youth	NA

Table A2. Promising models outside MENA and sub-Saharan Africa

Name of organization	Primary country of operation	Summary of program/model	Skills/ training focus	Target population	Funding model
American India Foundation: Digital Equalizer	India	American India Foundation's Digital Equalizer is a computer-aided learning program that seeks to prepare youth for the digital economy. The program provides computer and Internet training to subject teachers and students through project-based learning techniques. The program is integrated with the schools' curricula.	General ICT	Youth	Donor funding and student fees
Anudip	India	Anudip follows a market-aligned skills training program that involves local employers in creating course curricula out of their job-skill needs. This training methodology equips students with practical skills for securing jobs in their communities. Since its inception, Anudip has trained more than 5,000 rural youth with a placement ratio of 70 percent and improving. Anudip's partner company iMerit Technology Services, a globally networked ICT services company with a social mission, employs its graduates to offer low-cost, high-quality outsourcing services to global and domestic clients.	Workplace ICT, ICT-based livelihoods	Women and youth	Donor funding
B2R	India	B2R is a rural social impact BPO company located in Uttarakhand, India, that seeks to provide employment in rural areas and reduce the flow of rural–urban migration. It trains and employs people in rural areas in the BPO sector, and reinvests 33 percent of its profits toward community development within the villages it works in.	ICT BPO skills, date entry, digitization	Rural communities	Private companies, corporations, and social venture fund Aavishkaar
Center for Digital Inclusion (CDI)	Brazil	CDI creates community technology and learning centers in low-income areas of Brazil. The centers partner with existing grassroots organizations. CDI provides free computers and software, implements educational methods, and trains instructors in order to promote digital inclusion in these communities. CDI's programs seek to deliver education to individuals and provide an expanded portfolio of technology services to communities, leading to real skills for work in the modern labor market and increased community development. CDI also hopes to provoke active citizenship, community mobilization, autonomy, ownership, and entrepreneurial behaviors.	ICT training	All	Foundations and corporations
Da Nang Systems and Networks Administrators (DSNA)	Vietnam	DSNA is funded and run through a partnership between the East Meets West Foundation in Vietnam and the French nonprofit Passerelles Numeriques. Through the provision of scholarships, underprivileged high school students train as ICT technicians to qualify for jobs in the ICT sector. Through the two-year program, Da Nang University provides these students with basic software training, while Passerelles Numeriques offers in-depth ICT, English skills, and software training. Each scholarship is valued at $4,000 and covers training and accommodation costs for two years of study in the program.	Basic and advanced software and ICT skills, English skills	Underprivileged high school graduates	Foundations and nonprofits

Table A2. Promising models outside MENA and sub-Saharan Africa					
Name of organization	Primary country of operation	Summary of program/model	Skills/ training focus	Target population	Funding model
Gram Tarang	India	Gram Tarang is a vocational training program that seeks to train youth for employment and self-employment in fast-growing sectors of the economy. Gram Tarang has trained more than 7,000 youth across various industries, and has a 78 percent placement rate through strong partnerships with industry employers. Gram Tarang offers both specific ICT training programs as well as ICT training that is incorporated into other vocational programs.	ICT and vocational skills	Youth	Government and corpo-rations
Himayat	India	Himayat is a government-supported skills training program for youth to help them obtain entry-level service sector jobs, such as in BPO, retail, hospitality, and accounting. It innovatively seeks to align training in high-growth sectors with the needs of the market. The training itself is provided by certified private and nonprofit firms that have credible experience. Built-in incentives seek to ensure that the right kind of training takes place – by paying training firms per student and only if the student is placed in a job and stays at that job for at least three months.	Computer-oriented skills, English skills, soft skills, job-related technical skills	Unemployed youth	Government
Information Technology Training Program for People with Disabilities (ITTP)	Vietnam	Catholic Relief Services (CRS) has developed an innovative ICT training program for youth with disabilities in Vietnam. ITTP partners with local universities in Vietnam to bring ICT training to marginalized youth populations. Youth with disabilities in Vietnam face limited employment opportunities due to social stigma. CRS's program seeks to address this problem by equipping this vulnerable population not only with advanced ICT skills, but also soft skills training on how to conduct a job search, interview, and interact in an office.	ICT training, soft skills training, job search and networking skills	Youth with disabilities	Donor funding
LetITHelp	Philippines	LetITHelp is a demand-driven model. Underprivileged youth are trained and mentored and, after their training period, are either directly hired by Syntactics, an ICT outsourcing company, or placed in another ICT organization.	ICT and BPO training	Young ICT graduates	Donor funding and revenues
Mobile Telecenters	Philippines	Mobile Telecenters is an organization that works to bring ICT and internet access to schools and villages, through mobile IT centers that travel from place to place. The program also provides basic ICT and computer training to youth in schools.	ICT and Internet training	Youth	Donor funding
NASSCOM Knowledge Network	India	NASSCOM Knowledge Network is a network of telecenters that provides access to knowledge and information in education, livelihood, and health to improve the capacities for the employment and entrepreneurship of underserved communities in rural and urban areas. NASSCOM seeks to make ICT available to underserved communities, and works to bring together implementing organizations, industry, government bodies, and grassroots organizations to promote development through ICT.	ICT training	Underprivi-leged	Corpora-tions
OrphanIT	Philippines	OrphanIT works in the field of youth employment through the creation of telecenters. It provides consultancy and Web development services to ICT groups. Orphan IT provides ICT training and mentorship to youth, so that they can gain employment through Orphan IT.	ICT training	Youth	Donor funding

Table A2. Promising models outside MENA and sub-Saharan Africa					
Name of organization	Primary country of operation	Summary of program/model	Skills/ training focus	Target population	Funding model
Rose Computer Academy	India	Rose Computer Academy seeks to increase computer literacy throughout rural Haryana, India, in order to help students and youth in this area gain employment or become self-employed through their knowledge of ICT and computers.	Basic computer skills, graphic design, Web design, computer software, and accounting software	Youth in rural areas	Donor funding
Rural Shores	India	This program seeks to integrate India's rural youth into the digital economy by providing training and employment in noncritical BPO services in rural areas. The program provides ICT and English training for three months before the recipients begin working, and preference is given to people with disabilities or from low-income families.	BPO	Youth in rural areas	Corpora-tions
Source for Change	India	Source for Change is a rural BPO program that provides employment opportunities to communities in rural India, particularly for women. Source for Change provides rigorous training in computer skills, enabling women to gain employment and financial income, in a conservative area of India where women otherwise are restricted in terms of the employment they can access.	ICT and computer training, BPO	Women in rural areas	Foundations

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