

The Advancing MOOCs for Development Initiative

An examination of MOOC usage for professional workforce development outcomes in Colombia, the Philippines, & South Africa

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ADVANCING MOOCS FOR DEVELOPMENT INITIATIVE

Online courses have the potential to expand quality education and career training worldwide. Yet few people in developing countries access Massive Open Online Courses (MOOCs), despite the fact that MOOCs are open to the public and often free. Recognizing this unmet potential, the United States Agency for International Development (USAID) and CourseTalk, the largest source of MOOC reviews, have partnered to determine how online education can best help young adults across the developing world grow successful careers. The initiative is driven by research on MOOC usage in Colombia, the Philippines, and South Africa conducted by the Technology & Social Change Group (TASCHA) at the University of Washington's Information School with support from IREX, a nonprofit development organization.

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ABSTRACT

The potential of online learning has long afforded the hope of providing quality education to anyone, anywhere in the world. The recent development of Massive Open Online Courses (MOOCs) heralded an exciting new breakthrough by providing free academic instruction and professional skills development from the world's leading universities to anyone with the sufficient resources to access the internet. The research in Advancing MOOCs for Development Initiative study was designed to analyze the MOOC landscape in developing countries and to better understand the motivations of MOOC users and afford insights on the advantages and limitations of MOOCs for workforce development outcomes. The key findings of this study challenge commonly held beliefs about MOOC usage in developing countries, defying typical characterizations of how people in resource constrained settings use technology for learning and employment. In fact, some of the findings are so contrary to what has been reported in the U.S. and other developed environments that they raise new questions for further investigation.

KEYWORDS

MOOCs, online education, e-learning, Colombia, Philippines, South Africa, survey, ICTD, ICT4D, employability, workforce development, users, non-users, online learning

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Executive Summary

The potential of online learning has long afforded the hope of delivering quality education to anyone, anywhere in the world. The recent development of Massive Open Online Courses (MOOCs), however, heralded an exciting new breakthrough, offering instruction and professional skills development at the highest academic levels. Suddenly, anyone with the sufficient resources necessary to access the internet could take courses from the world's leading universities, often free of charge.

In January of 2015, through funding from the United States Agency for International Development (USAID), in partnership with IREX, the University of Washington's TASCHA program (Technology & Social Change Group), and CourseTalk, the Advancing MOOCs for Development Initiative (AMDI) was launched. The goals of the Initiative were threefold:

- (1) Collect data on the use of Massive Open Online Courses (MOOCs) in developing countries to better understand their potential for improving employment opportunities;
- (2) Raise awareness of MOOCs among policy makers, employers, and the general public; and
- (3) Determine factors that could lead to increased MOOC usage and higher completion rates of online courses.

PREVAILING VIEWS OF THE MOOC LANDSCAPE

Current research on MOOC usage has continually suggested that MOOCs primarily benefit highly educated, typically male, wealthier populations from developed countries.¹ MOOC research in developing economies, however, is still in its infancy. The research gathered in this report, *An examination of MOOC usage for professional workforce development Outcomes in Colombia, the Philippines, & South Africa*, aims to contribute to filling this knowledge gap.

This report hope to illuminate the MOOC landscape in developing countries in order to better understand the motivations of MOOC users, and afford insights on the advantages and limitations of using MOOCs for workforce development outcomes.² To this end, research for this report was collected through an extensive variety of means. Local academic and nonprofit institutions in Colombia, the Philippines, and South Africa collected data from MOOC users and non-users alike, key informant interviews from government agencies and major employers were solicited, and focus groups of MOOC users from each of the three countries in the survey were conducted.

¹ ICEF Monitor, July, 2014 <http://monitor.icef.com/2014/07/who-uses-moocs-and-how/>

² MOOCs for workforce development does not mean specific MOOCs designed for workforce development. It means how MOOCs in general contribute or can contribute to workforce development, as self-defined by users. This includes opportunities for employment, job retention, skills development and training that affords career advancement.

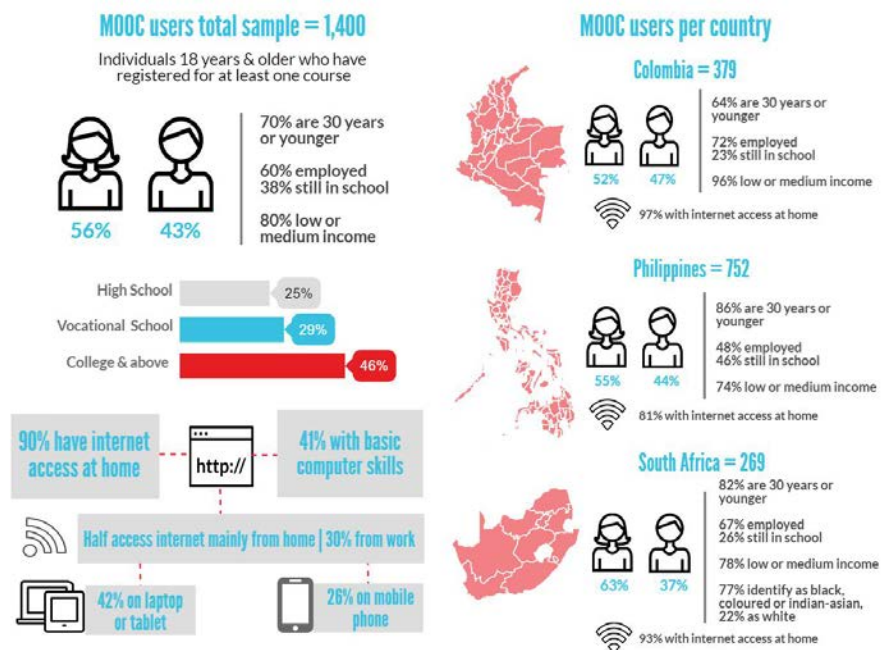
FINDINGS FROM DEVELOPING ECONOMIES MERIT REEXAMINATION OF WHO USES MOOCS AND WHY

Many of the key findings of this study are surprising. They challenge commonly held beliefs about MOOC usage, defying typical characterizations of how people in resource-constrained environments use technology for learning and employment purposes. In fact, some of the findings are so contrary to what has been reported in the United States and other developed environments that they raise questions necessitating further scrutiny.

Consider the following for examples...

- *Low- and middle-income populations make up 80% of MOOC users, in contrast to wealthier populations reported elsewhere.*
- *Over 80% of MOOC users only have basic or intermediate level ICT skills, challenging the belief that MOOCs are predominantly taken by people with higher level skills.*
- *Forty-nine percent of MOOC users received certification in a MOOC class, and another 30% completed a course. This is far above the single-digit rates reported elsewhere.*
- *Women are more likely than men to complete a MOOC or obtain certification.*
- *The main motivations of MOOC users were found to be in gaining specific job skills (61%), preparing for additional education (39%), and obtaining professional certification (37%).*
- *Among non-users, lack of time (50%) was by far the largest barrier to MOOC participation. Lack of computer access (4%) or skills (2%) was not found to be a barrier.*

Figure 1: MOOC users surveyed in Colombia, the Philippines, and South Africa

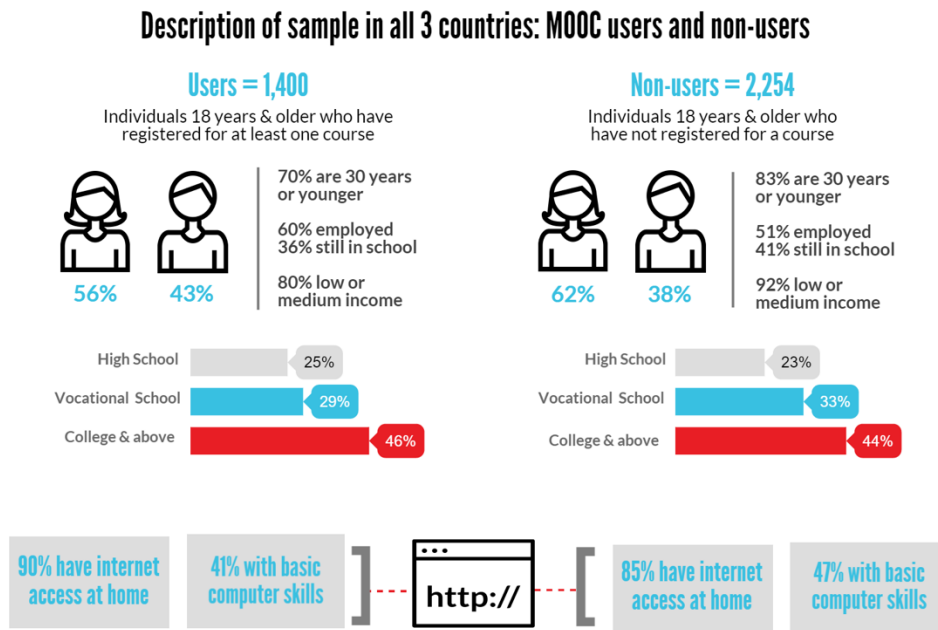


MOOCS THROUGH THE LENS OF POLICY MAKERS AND EMPLOYERS

The research in *An Examination of MOOC Usage for Professional Workforce Development Outcomes in Colombia, the Philippines, & South Africa* also examined the perspectives of government agencies, academic institutions, and employers about their awareness and perceptions of MOOCs. The core findings in these domains are of equal interest to policy makers, educators, and business interests. For instance:

- *Employers were generally positive about MOOCs, although they mentioned barriers including the predisposition that in-person or blended learning offers more opportunities to learn practical skills, and a bias against considering a candidate who only has only been certified through MOOCs over concern of quality control.*
- *At varying levels of government, there is general awareness of the potential of using MOOCs to advance workforce development, yet it is highly compartmentalized and not embedded in any national strategy in the countries examined.*
- *Government respondents identified ICT infrastructure and skills as the major barrier to MOOC uptake, a stark contrast to the views of both MOOC users and non-users.*
- *MOOCs offered by government institutions, more than academic institutions, are increasing in prominence and offer the most promise for workforce development outcomes due to the opportunity to link government certification to courses.*

Figure 2: Description of MOOC users and non-users sample in the three countries



WHAT THESE FINDINGS MEAN

This study has revealed a number of flaws associated with the frequently held perception that MOOCs usage is largely inhibited in developing economies by underdeveloped technological infrastructure and reduced income levels. Several significant conclusions merit noteworthy consideration:

- *MOOC users across the three countries overwhelmingly complete MOOCs and obtain certification in MOOC courses.*
- *The socioeconomic profile of MOOC users and non-users reflects the populations typically targeted for youth workforce development strategies and poverty alleviation.*
- *MOOCs represent a viable channel to expand training opportunities for women to gain skills and improve their competitiveness in the labor market, especially in jobs and industries where women are underrepresented.*
- *Employers have generally positive perceptions about MOOCs for advancing or starting careers, but an applicant listing a MOOC course on his/her CV doesn't make a difference in their hiring decisions.*
- *Slow internet speeds and quality of access to technology are obstacles for youth when engaging with MOOCs, which even when free, can incur data and time costs.*
- *Certification is important, but it is a nuanced picture. Most young people in these countries use MOOCs as a means to prepare for professional certification, but it is a means to an end.*

This report affords insight on a number of dynamic factors that surround MOOCs and the audiences they aim to serve. *An Examination of MOOC Usage for Professional Workforce Development Outcomes in Colombia, the Philippines, & South Africa* begins by disclosing how the research in each of the three countries was designed and the methodology behind it. The report then looks at who uses MOOCs in developing economies and for what purposes, before examining the demographics of non-MOOC users and the obstacles to engaging them, from lack of awareness to motivation. Finally, the report looks at government and employer perceptions of MOOCs before offering key recommendations cited above along with steps for addressing remaining challenges.

As with any report with this many variables, including language, income, culture, and infrastructure, there are bound to be assumptions requiring further scrutiny and questions necessitating supplementary investigation. These findings aim to both forward the dialogue on MOOCs and illuminate the ever-changing landscape associated with MOOCs and workforce development.

1 Introduction

Since their inception, online courses have offered the promise of high quality education to anyone, anywhere in the world. The advent of Massive Open Online Courses (MOOCs) has further fueled excitement about these prospects and opportunities for global workforce development. Educators, policymakers, researchers, and others have heralded MOOCs as a breakthrough online learning platform that could democratize higher education and bring the benefits of highly prestigious education to people all over the world. To many, it seemed self-evident that MOOCs would remove obstacles related to geography, socioeconomic status, affordability, educational attainment, and gender.

Current research on MOOC usage, however, challenges this initial optimism, suggesting that this innovative form of online education has benefited primarily highly educated, mostly male, and wealthier populations mainly in developed countries (Liyanagunawardena et al., 2013; and Zhenghao et al., 2015). Low completion rates, difficulty assessing the educational outcomes of MOOC participants, and the limited ability of this technology to recreate important aspects of the dynamics of social learning have further tempered the initial hype of this online educational tool. In developed countries, there is a wealth of research centered on MOOC users' experience, including instructional design and innovations, types of users based on the amount of course material accessed and completed, and overall completion rates. Less is known about users' motivations for taking MOOCs, perceptions about online learning in general, and, particularly, the reasons for not taking MOOCs among those who have not yet engaged with these online courses in developing country settings.

MOOC research in developing countries, however, is still in its infancy, and empirical research on MOOC usage in developing countries is even scarcer. While it is known that fewer people in the developing world than anticipated are participating in MOOCs, little is known about either users or non-users – who they are, what barriers they face, what would encourage greater use, and so on. Such information is crucial for MOOC providers, policymakers, and prospective employers to develop strategies that harness the full potential of MOOCs.

To fill this gap, the United States Agency for International Development (USAID) launched the Advancing MOOCs for Development Initiative (AMDI) as a way to make concrete, actionable recommendations to improve the impact of MOOCs in the developing world for workforce development purposes. One of the main goals of the initiative was to gain a better understanding of the current use and perception of MOOCs by young people, and the awareness and perception of governments and employers about the potential of these learning platforms to advance employability goals.

For the purpose of this study, workforce development refers to national, regional, provincial, or sector-based programs designed to deliver targeted education, training, and employment support services that allow people to improve their opportunities for employment. These initiatives assist governments, universities, and training institutions to understand and anticipate the changing demand for skills. They also build tools and systems that bring together job seekers and employers (RTI, 2014).

The results of the research will help educators, employers, and others interested in online education understand the demand for MOOCs in Colombia, the Philippines, and South Africa in three broad categories:

- **The MOOC user and non-user communities.** The research focuses on who currently uses these learning platforms and for what purposes, with the objective of developing a better understanding of MOOC awareness in the target countries. This extends to facilitating factors in each country, including the role of the business community in driving MOOC usage for employees to gain supplemental skills, universities and governments encouraging MOOC use, and cultural factors inhibiting or boosting this use.
- **Behavior change.** The research seeks to understand what factors could influence MOOC participation and completion rates, specifically delving into users' motivations for learning in these environments, and perception of benefits from an employability perspective. In addition, the research explores external factors such as what role MOOCs might play in policies promoting youth employment and education in the three countries and understanding employer perspectives of MOOCs as potential credentials.
- **Infrastructure.** The research explores to what extent it is possible for young adults to take online courses, specifically MOOCs, by learning more about who has access to internet, internet penetration rates, broadband and Wi-Fi speed, reach and connectivity capacity, costs associated with data, and government programs and institutions (universities, libraries, telecenters) aimed at increasing internet access for citizens.

1.1 Prevailing wisdom on MOOCs and their potential

As mentioned above, the research component of the Advancing MOOCs for Development Initiative aims to fill the dearth of data and research on MOOCs and their potential for workforce development purposes, particularly in developing countries. However, it is important to situate this research within the context of the existing literature on MOOCs and their potential.

MOOCs are characterized as (mostly) free courses offered online featuring high enrollment (Koutropoulos et al., 2012). MOOCs follow in the line of other open educational resources, which have been defined as “digitized materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research” (OECD, 2007, p. 30, as cited in Hew & Cheung, 2014, p. 46). MOOCs have also been characterized by tremendous growth over a short period of time. The term MOOC was coined in 2008 for a class offered by George Siemens and Stephen Downes in Canada; the “modern MOOC movement” took off three years later, when a course offered at Stanford enrolled almost a quarter of a million participants (El-Hmoudova, 2014; Shah, 2015). The number of participants signing up has continued to increase annually; in 2014, a total of 17 million enrolled for at least one course, and in 2015, the annual enrollment total increased to over 35 million (Shah, 2015).

The body of research on MOOCs can be divided into three themes: participation, student behavior, and course features. Most studies have examined a significant issue with MOOCs: the low level of completion and certification. Studies have focused primarily on North America and Europe.

1.1.1 Participation

The strong majority of studies on MOOCs have shown that those who enroll tend to be relatively young, employed, well-educated, and male (Christensen et al., 2013; Zhenghao et al., 2015; Ezekiel, 2013; Despujol et al., 2014). Records have shown that these participants mostly resided in North America and Europe (Liyaganawardena, Williams & Adams, 2013; Christensen et al., 2013; Zhenghao et al., 2015).

Participants have been most attracted to courses in the field of computer science, although other science, technology, engineering, and mathematics (STEM) fields have also been in high demand (Ho et al., 2015).

1.1.2 MOOC student behavior

Research has examined the behavior of MOOC students, particularly why so few participants complete courses. Studies have observed passing rates of just 5-10% (Hew & Cheung, 2014; Breslow et al., 2013; Zhenghao et al., 2015; Despujol et al., 2014). Explanations have been clustered in the areas of motivations and defining user types. Students enroll in MOOCs with different goals in mind. Satisfying their curiosity and advancing their jobs are two of the most common reasons (Czerniewicz, et al., 2014; Hew & Cheung, 2014; Breslow et al., 2013). While participants enroll with the specific intention to obtain a certificate, or even multiple certificates (Young, 2013), many others are less interested in working through a full course (Fini, 2009). Studies on how attitudes manifest in completion rates have shown that the strongest student outcomes are achieved by those who are most interested in the content or want to earn completion certificates, whereas those who enroll in MOOCs out of curiosity finish far less often (Wang & Baker, 2015; Ho et al., 2015). Students' perceptions of the MOOC also matter: perceived reputation (influence and trust) and openness (content and attitude) have been shown to be important predictors of whether students finish a course (Alraimia, Zoa & Ciganekb, 2015).

Furthermore, researchers have identified different types of users to tease out the linkages between the behavior of MOOC participants and how it changes over the course of a MOOC with the likeliness of course completion. Types identified by researchers have overlapped to a large degree and include the following:

- Active participation, passive participation, and lurking (Milligan, Littlejohn & Margaryan, 2013)
- Lurkers, drop-ins, passive participants, active participants (Hill, 2013)
- Completing, auditing, disengaging, and sampling (Kizilcec, Piece & Schneider, 2013)
- Thread-starters, sub-thread starters, and only-repliers (Yang, Sinha, Adamson & Rose, 2013)

1.1.3 Course features and human-computer interaction & design

Another angle studies have used to assess the reasons behind various participant outcomes involves examining the distinct delivery-style of MOOCs and how well it works for students, and particularly how the online format influences student engagement with other classmates. Participants have been shown to benefit from MOOCs' multimedia format (e.g., short video lectures, links to websites, and podcasts) when coupled with university-like syllabi of some classes, providing the right amount of structure and flexibility (Frank, 2012; Levy, 2011). MOOCs also work well for students who want to supplement self-directed learning with the ability to learn and reflect with others (Kop, 2011; Koutropoulos et al., 2012).

However, studies also show that online peer-to-peer and student-to-instructor interactions can be frustrating to students. Participants have expressed disappointment with the thought and effort lacking in peers' contributions to discussion forums and feedback on peer-reviewed assignments (Breslow et al., 2013; Koutropoulos et al., 2012; Krause, 2013). Students' low quality of relationships with instructors has been shown to hinder student outcomes even more: a literature review found that the relative lack of instructor presence or support is one of the most distinguishing qualities of MOOCs, and participants' failure to understand content material and having no one to turn to for help are two prominent reasons why a vast majority of MOOC participants do not finish courses (Hew & Cheung, 2014). Other reasons have included insufficient incentives and having other things to do with one's time (Hew & Cheung, 2014).

1.1.4 MOOCs in developing countries

Very little empirical research has been conducted to examine the experiences of MOOC students in lower-income countries. Existing studies have only begun to investigate the barriers young people face in less-developed settings for successful MOOC engagement and the different outcomes they derive from participating in these learning platforms. In all countries, information literacy and digital literacy are considered prerequisite for MOOC engagement and to achieve successful learning outcomes (Fini, 2009; Kop, 2011). These factors can also be diminished by those with limited fluency in English (Liyaganawardena, Williams & Adams, 2013). MOOCs are currently offered in 16 languages, but as of 2015, 75% of courses were conducted in English, followed by Spanish and French (Shah, 2015). Learners in low-income countries may also face greater infrastructure barriers, especially in rural areas, which are much more likely than city centers to lack connectivity options, including landlines and mobile coverage, not to mention high-speed broadband internet (Liyaganawardena, Williams & Adams, 2013).

A recent study focused on participants in medium- and low-income countries showed that participation and results are distinct from those reported in high-income countries. For instance, individuals with lower levels of socioeconomic status and educational level have been shown to be significantly more likely to take courses for the educational opportunity and are more likely to report tangible career benefits in low-income than in high-income countries (Zhenghao et al., 2015). One study showed that 87% of those who completed a class with the goal to improve their employment situation say their careers had improved due to MOOC participation, while 88% of completers focused on achieving an education goal reported educational benefits (Zhenghao et al., 2015).

As the literature review shows, there is more research needed to understand the experiences of MOOC participants in developing countries, including how student outcomes differ or do not differ across countries and within countries (e.g., by physical ability, gender, education-level, socio-economic status). Such studies would shed needed light on an emerging and far-reaching method of learning and personal discovery, as well as its potential to support development goals like entrepreneurship, workforce development, and educational attainment.

2 Research design

This research was designed to analyze the MOOC landscape in selected developing countries to better assess opportunities to increase MOOC usage and understand their perception by governments and employers. After careful consideration of regional internet penetration rates, higher education opportunities, and prevalence of English language capacity, the researchers selected Colombia, the Philippines, and South Africa as research settings. These three countries report levels of higher development (GDI, literacy rates, GDP per capita, etc.) compared to their neighbors, and were, to some extent, appropriate representative illustrations of regional development for neighboring countries in the next five to ten years. Thus, it is the hope that the lessons gleaned from these three countries can be used to develop appropriate strategies for other countries in their corresponding regions.

As globalization increases the demand for higher-level skills, a growing number of young people in the developing world find themselves without the relevant knowledge to fully participate in the labor market and contribute to economic growth. Against this backdrop, this research assesses the extent to which participation in MOOCs can contribute to improving the employability of young people in developing countries and identifies the factors that may hinder or foster their potential in the context of workforce development. Based on the MOOC landscapes in the three countries, the research sheds light on how young adults in these countries can potentially benefit from engaging in these learning platforms from the perspective of workforce development.

Key definitions:

MOOCs: online courses that bring together people from diverse backgrounds interested in a particular topic and that are open to anyone with no prerequisites. Courses are usually free, and they can support an unlimited number of participants. MOOCs are offered in many ways through providers such as Coursera, edX, Udacity, MiriadX, UP Online Program, TESDA, etc. that work in partnership with universities and other institutions

MOOC users: any individual between the ages of 18-35 who has registered for at least one course. Based on the highest MOOC experience level achieved, there are four user types:

1. *Registrants:* users that did not engage with the course after registration
2. *Browsers:* users that browsed some course material but did not complete the course
3. *Completers:* users that completed the course but did not obtain certification
4. *Certified:* users that completed the course and obtained certification

MOOC non-users: any individual between the ages of 18-35 who has NOT registered for a course. Within this group there are two types:

1. *Non-users aware:* individuals who are aware of MOOCs but choose not to participate for different reasons.
2. *Non-users not aware:* individuals who are NOT aware of MOOCs.

2.1 Methodology

The research uses a mixed-methods approach to shed light on how Massive Open Online Courses (MOOCs) can best help young adults across the developing world grow successful careers and engage in productive activities by focusing on the accessibility, use, and perceived benefits of MOOCs in Colombia, the Philippines, and South Africa. The research also identifies factors that may hinder or foster the potential of MOOCs in the context of workforce development. In order to achieve these objectives, the study investigates four main research questions:

- Who uses MOOCs in developing countries, for what purposes, and what are the perceived benefits for users from an employability perspective?
- Who is not using MOOCs, what are the reasons for not participating, and what factors could increase the likelihood for non-users to take these courses?
- What is the general awareness of MOOCs at the government and employer levels, and how might the perceptions of these learning platforms among different stakeholders influence policy development and workforce decisions?
- Using the three countries as settings, what are the general challenges and opportunities for MOOC usage to increase employability for the young workforce in the developing world?

2.2 Research activities

The analysis is based on data derived from four main research activities:

1. Survey of MOOC users: individuals between the ages of 18-35 who have registered for at least one course. A total of 1,400 MOOC users participated in the study (See figure 1 for demographic description of the total sample)
2. Survey of MOOC non-users: individuals between the ages of 18-35 who have not registered for any course. A total of 2,254 non-users were surveyed across the three countries (See figure 1 for a demographic description of the total sample)
3. Interviews of representatives in selected government agencies and educational institutions in each country: A total of 45 key informants were interviewed
4. Interviews of selected employers representing a variety of industries: A total of 28 employers were interviewed

2.2.1 User survey

An online survey was designed and implemented to capture the user experience with MOOCs, and the capacity of MOOCs to advance learning and employability across different socioeconomic contexts. The primary goal of the MOOC user survey was to identify the most important factors that either facilitate or hinder participation for all types of users (from registration-only to earning certification – see more on

the different types of users in Chapter 3). The survey³ was administered online in English and Spanish and promoted through different channels including the websites of the project partners, email distribution lists, and social media. Despite the growing popularity of MOOCs, there is still little understanding of the context of use (how, why, and when). This survey was designed to shed light on the motivations, experiences, and learning and employment outcomes for the different types of MOOC users. To achieve these goals, the user survey gathered information on the following areas:

- Demographics
- Number of courses registered for, browsed through, completed, and certified in
- Subject areas, including vocational training at the request of local research partners
- Motivations for participating in MOOCs
- Channels used to find MOOC courses
- Perception of MOOCs in promoting employability outcomes
- Perceptions on online learning in general

2.2.2 Non-user survey

The non-user survey⁴ was designed to identify obstacles that impede the participation of non-users in MOOCs in the three selected countries. This data yields valuable insights related to service and design improvements for MOOCs to attract these potential users. In addition, the survey uncovers existing gaps in awareness about MOOCs among non-users, opening up possibilities for effective marketing strategies in a developing country context.

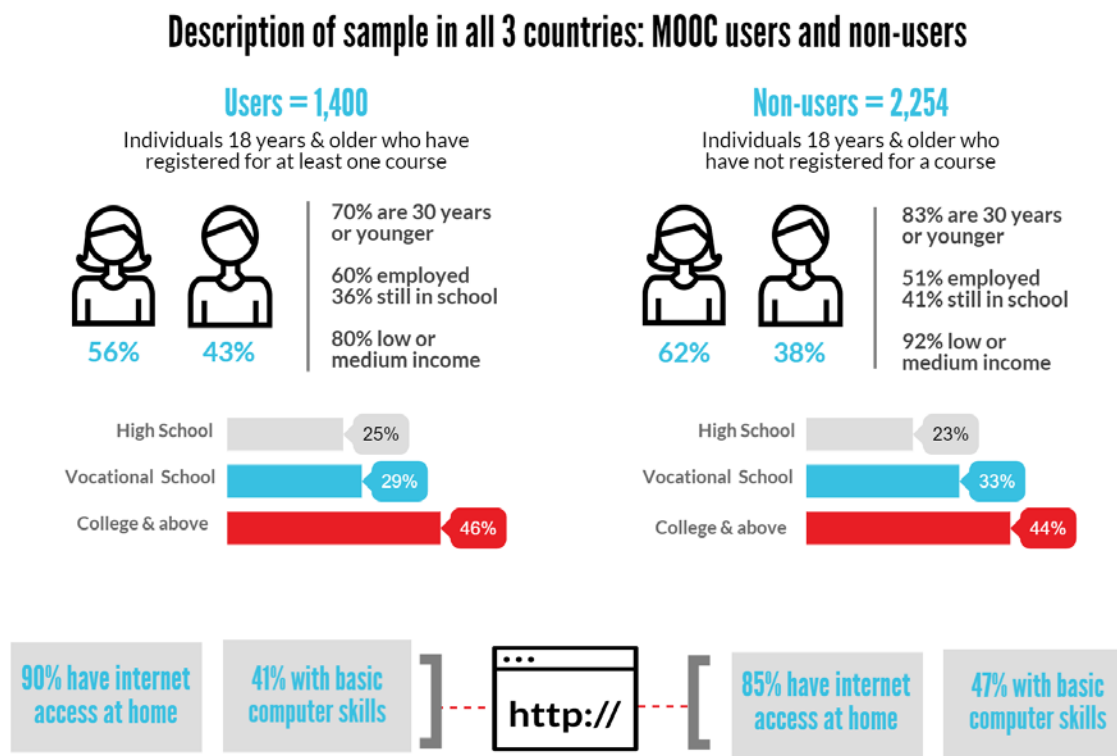
To achieve these goals, the non-user survey gathered information on such areas as:

- Demographics
- Awareness of MOOCs
- Reasons for not participating
- Motivations for improving skill sets
- Perceived utility of possible strategies (e.g. peer learning) for encouraging participation
- Perceptions around online learning in general

³ See Appendix 1 for the survey in English and Appendix 2 for the Spanish version

⁴ See Appendix 3 for the non-user survey in English and Appendix 4 for the Spanish version

Figure 3: Description of MOOC users and non-users sample in the three countries



2.2.3 Key informant interviews

Key informant interviews were conducted with stakeholders representing the enabling environment and demand side of the MOOC equation. This includes policymakers from education, ICT, and employment ministries; formal and non-formal education representatives; accreditation agencies; and a sample of employers in sectors that are currently driving job creation in the countries. These stakeholder interviews revealed important insights into factors that either encourage or impede MOOC usage in the target countries.

In order to capture the enabling environment in the country from the policy and labor dynamics perspectives, the interviews⁵ addressed the following topics:

- Awareness of MOOCs
- Policies and programs promoting youth employability in general and those that include MOOCs as part of training and skill development strategies
- Employer perception of MOOCs' engagement and effect in hiring decisions
- Partnerships
- Opportunities and challenges to increase access to educational opportunities through MOOCs

⁵ See Appendix 5 for the interview protocol for government and Appendix 6 for employers

2.3 Sampling strategy for survey respondents

Since much is unknown about MOOC users and non-users in the three countries, the researchers used a snowball sampling strategy to reach as many respondents as possible through a variety of online and offline channels. The dissemination campaign, overseen by the local research contractors, targeted potential survey respondents that were between the ages of 18-35 years of age. Tablets and the OpenDataKit (ODK)⁶ survey tool were used by enumerators from the local research contractors to improve response counts in the target countries, visiting public libraries, telecenters, youth NGOs, universities, and other sites where high concentrations of the target population exist.

To define the desired sample size within each target country for both the user and non-user surveys, the study utilized a primary analysis scenario which estimated an error around a proportion. For example, the percentage of the sample that has taken more than one MOOC, plus or minus some amount of error.

Calculations showed that a sample of 400 respondents per country, for both users and non-users, would provide errors around percentages of +/- five percentage points. Although increasing the sample size decreases this error, the returns quickly diminish as cost and data collection efforts increase. Given the sampling time frame, a target of 400 users plus 400 non-users in each country effectively balanced future analysis possibilities with the logistical constraints of the project.⁷

2.4 Survey data analysis strategy

The strategy for survey data analysis proceeded along a primarily descriptive path, using summary statistics and tables to analyze the data. While most of the data required minimal processing, several variables were constructed to hone in on certain aspects of the data and further analysis goals.

Since a high-level analysis goal was to try and categorize respondents based on key demographic features in order to compare between countries, additional work was necessary on income, employment status, and education level. Each of the three target countries had a unique set of possible responses in the user and non-user surveys that reflected the context of the country.

Income

Based on national statistical income categories for each country and in coordination with the country teams⁸, household income levels were classified into low/medium/high categories that reflect the context in each country. The specific classification of each household income level for the three countries is in table 1 below.

⁶ <https://opendatakit.org/>

⁷ See Appendix 7 for a detailed description of the sampling strategy

⁸ Data obtained from the National Statistics Agencies from each country

Table 1: Classifications for income categories in the three countries

Income Categories	Colombia (Colombian Pesos)	Philippines (Philippines Pesos)	South Africa (South African Rand)
Don't Know	Don't Know	Don't Know	Don't Know
Low	Menos de – 1 s m	Php 5000 or lower	Zar 1000 and below
	De 1 a menos – de 2 sm	Php 5001 – 10000	Zar 1000 – 2000
		Php 10001 – 15000	Zar 2000 – 4000
		Php 15001 – 20000	
		Php 20001 – 25000	
Medium	De 2 a menos – de 3 sm	Php 25001 – 30000	Zar 4000 – 8000
	De 3 a menos – de 4 sm	Php 30001 – 35000	Zar 8000 – 16000
	De 4 a menos – de 6 sm	Php 35001 – 40000	
	De 6 a menos – de 8 sm	Php 40001 – 45000	
	De 8 a menos – de 10 sm	Php 45001 – 50000	
		Php 50001 – 55000	
		Php 55001 – 60000	
	Over Php 60000		
High	De 10 a menos – de 12 sm		Zar 16000 – 32000
	De 12 a menos – de 15 sm		Zar 32000 – 64000
	De 15 a menos – de 20 sm		Zar 64000 and above
	De 20 s m y mas		

Employment status

In general, employment status categories were condensed into employed, unemployed, student, and other, which are shown in table 2 below.

Table 2: Classifications for employment categories in the three countries

Categories	Colombia	Philippines	South Africa
Unemployed	Unemployed	Looking for a job unemployed, not looking for a job unemployed	Unemployed not seeking work, Unemployed seeking work
Employed	Part-time employee, full-time employee, informal employment, employment for service provision, self-employed	Full-time employee, part-time employee, self-employed	Employed full-time, employed part-time, occasionally employed, self-employed
Student	Student with employment, Student without employment	Student	Student working, student not working
Other	Retired, other	Homemaker, other, out of school not in school, retired	Retired, other

Education level

Similarly, for education level, three categories were used: up to high school, vocational or trade school, and college and above. Responses from the three countries were classified into these three types as shown in table 3 below.

Table 3: Classifications for education categories in the three countries

Categories	Colombia	Philippines	South Africa
Up to high school	Secondary school	Secondary/high school	Certificate
Vocational/trade school	Technical school	Vocational/trade school	Diploma
College and above	Undergraduate, Specialization, Masters, PhD	Tertiary college, Masters, PhD, post-doc	Undergraduate, Postgraduate

2.5 Limitations & considerations

As with any research, there are limitations, particularly with subjects and sampling. This study was no exception.

First, there were challenges in recruiting MOOC users in the target countries to participate in the survey. Despite the variety of channels selected in each country to increase the likelihood of accessing users, the researchers in the countries faced challenges reaching the target sample numbers, particularly in South Africa, and to a lesser extent, in Colombia.

Additionally, several MOOC users were recruited through educational institutions – universities, government training agencies, vocational schools, etc. – and even though the set of users in the final sample shows diversity in educational background, it may not be fully representative of the MOOC user landscape in the country.

MOOC users in the sample were also not bound by a specific course or MOOC provider, which presented a methodological challenge in terms of assessing MOOC experience and behavior. MOOCs in which they participated may vary in length, complexity, pedagogical format, and expectations for completion and certification.

Fourth, the researchers aimed to include as a diverse sample as possible of employers from key relevant industries driving job creation in each of the three countries. This effort was primarily driven by the need of the project to contextualize, to the extent possible, the MOOC landscape in the target countries beyond the data reported by users and non-users. The valuable qualitative insights, however, are limited to the perspective of the employers interviewed and should not be taken as an employer assessment.

Finally, the three countries represent dramatically diverse socio-economic contexts, with widely different histories, needs, ICT access and infrastructure, and youth labor dynamics. Additionally, each country may have different government programs that may include MOOCs and there are varying levels of MOOC awareness.

Any analysis and recommendations for the potential of MOOCs should take these differing contexts into consideration.

Select country highlights: Colombia

EDUCATION

The Colombian higher education sector, once thought of as under-performing, has been upgraded remarkably in the last decade. In 2002, the government launched an education improvement program called *Revolución Educativa* (Education Revolution). Tertiary enrollments have increased since then. According to the OECD, between 2007 and 2011, the country's total education spending increased by over 43%, and there was a corresponding rise in the percentage devoted to higher education. Colombia's expenditure on education is higher than average for Latin America and near the OECD average. The government has also established a National Program for Advising Higher Education Institutions on Internationalization, led by the Ministry of National Education in collaboration with a group of 23 universities.

YOUTH & EMPLOYMENT

There are several labor policies focused on generating employment opportunities for youth. E-Labora is an online tool for creating resumes aimed at formal and informal workers. It aims to generate employment for young people who graduate with vocational or undergraduate degrees, helping them to secure their first formal job. The National Apprenticeship Service, SENA, is an independent public institution under the Ministry of Labor offering free on-line training in the fields of economic, technology and social development. On a smaller, but more targeted scale, the "TransFormate" initiative seeks to change the employment culture of youth in the country by improving their capabilities to participate in social, productive, and income-generating activities. This initiative is aimed at young (16 to 28 years old) victims of conflict, many of whom have few formal employment opportunities due to internal displacement or lack of family connections. It provides grants that cover 100% of the cost of attending vocational and university education. Approximately 2,800 young people benefited from this program in the most recent year.

See Appendix 8 for more detailed information on Colombia

Select country highlights: The Philippines

EDUCATION

The 2015 Philippine Education for All Report indicates that, while primary education enrollment rate is nearly 100%, secondary education rate is only 65%. To address this, in 2014 the Philippines passed the *K to 12 (Kindergarten to Grade 12) Law*, increasing the number of compulsory years of secondary education from 10 to 12 based on the US model. Vocational education programs have likewise been expanded with 35% of the student body at public schools now participating in vocational programs and 19% of high school students taking courses through TESDA (Technical Education and Skills Development Authority) training institutions.

Overall, there is an interesting gender divide. Among out-of-school youth ages 15 to 24, 24% are female and 11.2% male. However, at the tertiary education level, enrollment of women in 2015 was more than 1.9 million, while enrollment of men was about 1.6 million. Higher education was dominated by five disciplines: (1) business administration, (2) education and teacher training, (3) engineering and technology, (4) information technology and related disciplines, and (5) medical and allied courses. The Philippine Statistics Authority (PSA), in its 2015 Factsheet on Women and Men in the Philippines, reported that the most commonly chosen course of women was business administration, while men tended to choose IT-related courses.

YOUTH & EMPLOYMENT

The PSA defines the Philippine labor force as that segment of the population over the age of 15 who are employed or unemployed. The labor force participation rate of the Philippine youth population in 2014 is estimated at 55.2%. In March 2015, PSA data released from the Labor Force Survey reported that about 47% (2M) of the 4.1 million unemployed Filipinos are ages 15 to 24, compared with 31.6% (1.3M) ages 25 to 34. Another interesting feature of the labor force is that young overseas foreign workers make up 15% of new hires.

See Appendix 9 for more detailed information on the Philippines

Select country highlights: South Africa

EDUCATION

The education system of South Africa still reflects the split between well-resourced historically “white” schools and universities, now catering to students from all racial groups, and historically “black” schools and universities, catering mainly to poor students from semi-urban and rural areas. Because of apartheid planning, such areas still coincide with either townships, the semi-urban settlements where Africans were forced to reside, or former homelands, recognized as independent states where Africans could claim citizenship under apartheid. The Department of Higher Education and Training (DHET) is responsible for post-school education and training to meet the skill requirements in South Africa, irrespective of where the learning takes place e.g. college, university. Tertiary education occurs mainly through three types of public and private education and training institutions, namely: Higher Education Institutions (HEIs), Further Education and Training/Technical and Vocational Education and Training (FET/TVET) Colleges, and Adult Education and Training (AET) Centers. In 2013, the HEI sector was comprised of 136 public and private institutions, the FET/TVET was comprised of 68 public and private colleges, and the AET sector was comprised of over 3,200 private and public centers. Altogether, 2,155,712 students were enrolled across these institutions in 2013.

YOUTH & EMPLOYMENT

Youth unemployment is exceedingly high in South Africa. Even those with degrees struggle to find skilled jobs. The youth unemployment rate is above 40%. Approximately one in three students drop out of university, and statistics are even higher at lower levels (close to a 75% dropout and only a small percentage of matriculates qualify for university entrance). South Africa is moving to create black industrialists and entrepreneurs through its government proposal to procure 70% of goods and services from local producers, suppliers, and contractors. Government leadership has mentioned that in order to enable this, there is the need for better access to finances, support, and infrastructure in existing and new sectors. The procurement of local goods and services goes a long way towards Black Economic Empowerment (BEE) compliance. BEE requires employing a certain number of individuals from previously disadvantaged groups (Black, Colored, and Indian) for local empowerment. At the same time, the South African Immigration Act allows the employment of foreigners to utilize and gain from their expertise and promote economic growth. While the employment of foreign workers may be seen as a contradiction of the BEE policy (i.e. in terms of empowering and upskilling locals), many sectors, especially ICT, admit to using foreign labor at times, but insist that they are committed to local training and empowerment.

See Appendix 10 for more detailed information on South Africa

3 Who uses MOOCs in developing countries and for what purposes?

The analysis presented here represents one of the first efforts to understand MOOC usage in developing countries that is not bound by a specific course or a MOOC platform. The research is based on a diverse sample of MOOC users in terms of demographics, motivations for participating, subjects taken, and different perceptions they have about MOOCs. MOOC users are very diverse not only in terms of their demographics, but, even more importantly, in the different motivations and goals that drive their MOOC participation, learning experiences, and expected outcomes. Adding to this complexity, the so-called developing world is far from homogeneous. There are significant differences across regions, countries, and within the countries themselves. This chapter analyzes generally who is using MOOCs in developing countries and for what purposes.

The 1,400 MOOC users surveyed come from diverse backgrounds in terms of age, gender, educational and income levels, employment status, and, in the case of South Africa, also race. The population is also diverse in terms of their internet access, main devices used, and level of computer and internet skills. The diversity of the makeup of MOOC users in Colombia, the Philippines, and South Africa is one of the most important contributions of the study. Through the experiences of young people from different walks of life and socio-economic backgrounds, even if not representative of the full population of MOOC users, a more nuanced picture is presented on how and why they are using these learning platforms, and the benefits in terms of workforce development outcomes (see figure 2 for a description of the sample per country).

The research addresses four general questions about MOOC users:

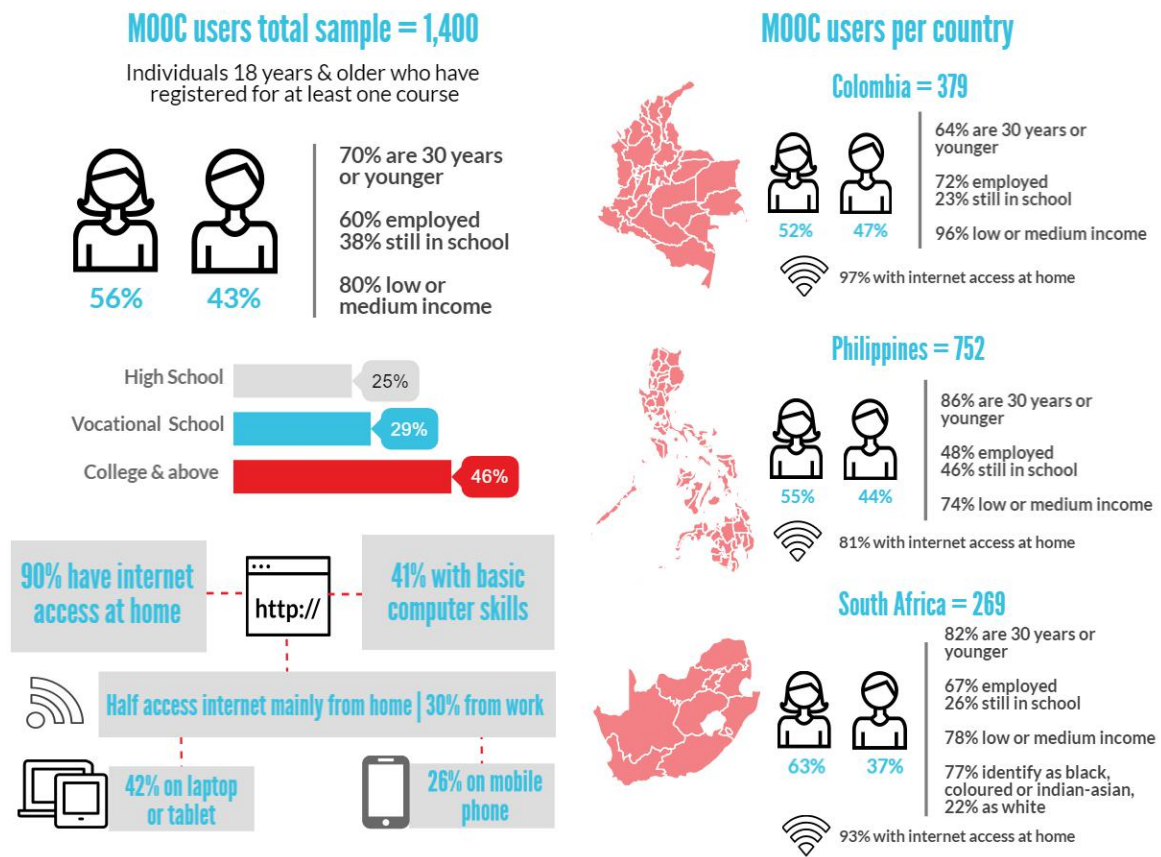
1. Who uses MOOCs?
2. How do they use MOOCs and for what purposes?
3. What are the perceived benefits of MOOC enrollment in workforce development?
4. What technical and learning challenges do MOOC users face?

Key findings

- **Completion and certification rates of MOOC users across the three countries far supersede** those reported for users in more developed countries. Almost half (49%) of MOOC users surveyed receive certification for at least one course. The rate is even higher — 70% — when limited to employed respondents. Nearly 80% of all MOOC users said they had completed at least one course.
- **MOOC users in the three countries tend to be younger and from more diverse educational backgrounds** than users in developed countries, as reported by other studies.

- **Income level does not determine young people’s engagement with MOOCs.** Low and medium-income populations make up the vast majority of MOOC users in the three countries.
- **Gaining specific skills to perform better in their job, obtaining professional certification, preparing for additional education, and finding a new job** are the top motivations of young people to engage with MOOCs.
- **Computer sciences, language, and business & management** are the three most popular MOOC subjects across the three countries.
- **Women are more likely than men to complete or get certified** in at least one course.
- **Young people who are employed exhibit higher rates of completion and certification** than MOOC users who are still in school.
- **The higher the use of desktop/laptop as the main device for accessing the internet, the higher the rate of completion and certification.**

Figure 4: MOOC users surveyed in Colombia, the Philippines, and South Africa⁹



3.1 MOOC users are young, employed or in school, with a variety of education levels

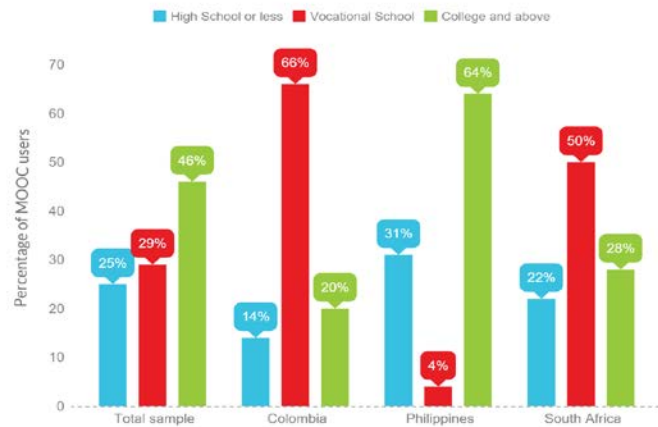
This section presents the demographic makeup of the MOOC users surveyed. Situating the users by age, education level, income, and employment status allows for more complex analysis of the motivations users have in taking MOOCs. This chapter goes on to describe the four main types of users that emerged from the analysis: registrants, browsers, completers, and certified users.

MOOC users in the three countries tend to be younger and from more diverse educational backgrounds than users in developed countries, as reported by other studies.

⁹ 41% of MOOC users identified as having basic ICT skills, 40% have intermediate ICT skills, 19% have advanced ICT skills

Seventy percent of users are 30 years or younger, one fourth have a high school degree, one third completed a vocational program, and the remainder have university education or above. There are some interesting differences among the three countries in terms of age. In Colombia, over 60% of MOOC users are under the age of 30. In South Africa and the Philippines it is over 80%.¹⁰ MOOC users in the Philippines show, on average, higher levels of education than the users in Colombia and South Africa. Sixty-four percent of Filipino users have a college degree or above, compared to 28% in South Africa and only 20% in Colombia (see figure 3 for educational level of MOOC users per country). In Colombia and South Africa, however, the majority of MOOC users hold a vocational degree, and, as the next section will discuss, these users tend to show the highest rates of course completion and certification. As a reference, the average age of MOOC users in EdX, a MOOC platform that offers HarvardX and MITx courses, is 30 years and above with over 70% holding a bachelor's degree (Ho et al., 2015).

Figure 5: Education level of MOOC users by country

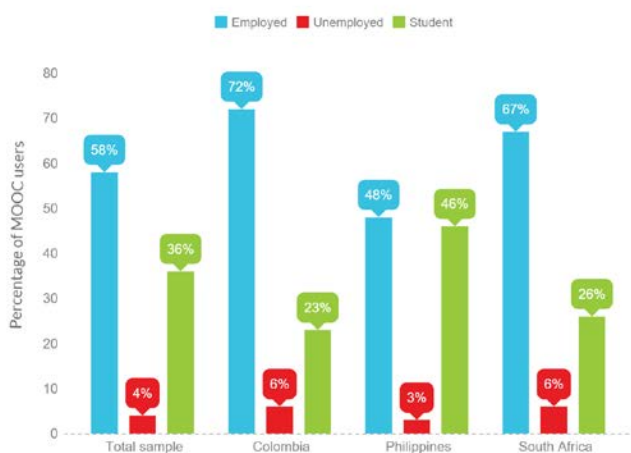


MOOCs seem to be an educational resource primarily for people who are employed or still in school.

Across the three countries, MOOC users are employed (60%) or still in school (36%), with only 4% of the users surveyed reporting being unemployed or not in school. There are some small variations among the three countries in terms of employment background, with Colombian and South African MOOC users showing higher levels of employment (72% and 67% respectively) than those in the Philippines (48%). The Philippines, however, has the highest number of MOOC users that are still in school (see figure 4 for employment status of MOOC users by country). This trend in employment status is similar to that found among MOOC users in OECD countries, particularly the United States (Christensen et al., 2013).

¹⁰ A study by Christensen et al. (2013) on MOOC participants in courses offered by the University of Pennsylvania in Coursera also found that MOOC users from non-OECD countries tended to be younger than OECD MOOC users. Two-thirds of non-OECD students were under the age of 30, compared to only 23.5% of US students.

Figure 6: Employment status of MOOC users by country



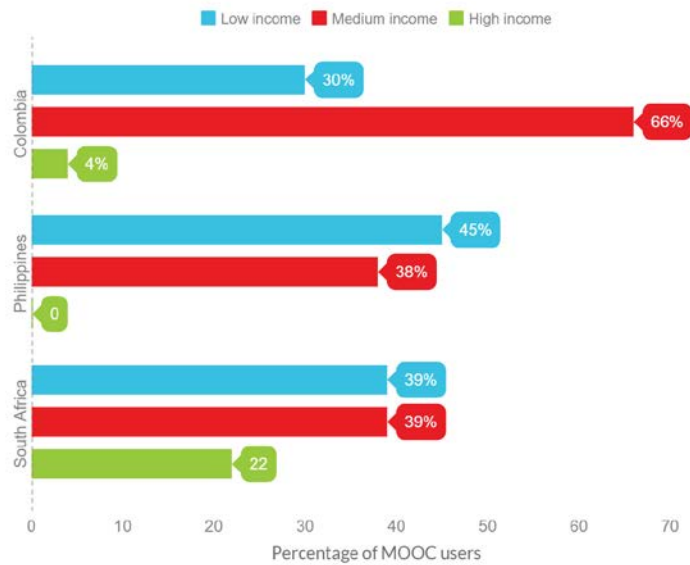
Even though a 50/50 split was targeted in the sampling, women represent a higher percentage of the MOOC users surveyed in South Africa, making up 63% of respondents.

The higher participation of women in South Africa can be also explained by the fact that they perceive education as a strong driver of social improvement. There is also a concerted effort in the country to address inequality in access to education through affirmative action initiatives. This means that women, particularly young, black women, feel that many opportunities are opening up to them and MOOCs perhaps represent one alternative for gaining the skills needed to get ahead in the labor market. In addition, 72% of MOOCs' low-income users in this country are women.

Income level does not determine young people's engagement with MOOCs. Low and medium-income populations make up the vast majority of MOOC users in the three countries.

Eighty percent of the total MOOC users surveyed in the three countries come from low- or medium-income backgrounds. In the Philippines, almost half of MOOC users come from a low-income background and in South Africa, almost 40%. These percentages challenge commonly held assumptions that MOOCs benefit primarily high-income populations (see figure 5 for income level distribution by country). Although the higher participation of low-income young people may not fully represent the mosaic of MOOC users in these countries, it is important to note that these learning environments are providing viable educational alternatives for this segment of the population. This finding is critical for governments that are considering including MOOCs as part of policies and programs aimed at poverty alleviation, educational inclusion, and increased employability for the youth. Chapter 5 details ongoing government programs in the three countries that include online learning, and MOOCs in particular, as part of the policy strategy.

Figure 7: Income level of MOOC users by country



Access to internet at home alone is not a reliable indicator for determining MOOC participation and expected outcomes.

Even though 90% of the MOOC users sampled have home internet access, the majority reported internet speed, limited access to the internet and computers, and cost as the major technical challenges they face when taking MOOCs. This finding is important for MOOC providers interested in designing courses that are tailored to environments with limited bandwidth. It also points to the importance of raising awareness about the role that public access venues (libraries, telecenters, etc.) can play increasing the quality and quantity of internet access for young people, thus enabling them to participate more actively in MOOCs.

Similarly, ICT skills level does not predict MOOC usage. Most of the MOOC users in the three countries have either basic or intermediate ICT skills level.

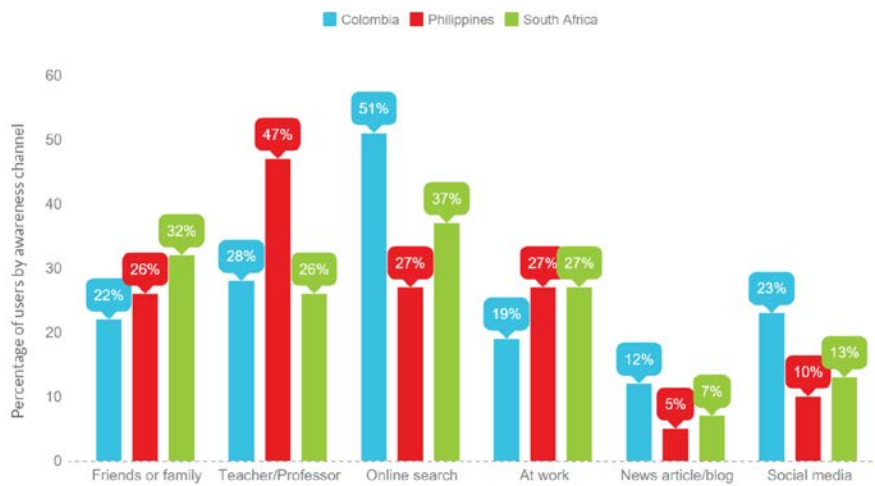
Forty-one percent of users have basic ICT skills and an additional 40% have intermediate skill level, with some variations among the three countries. Contrary to commonly-held beliefs that low-income populations tend to have lower ICT skill levels, over half of low-income MOOC users show intermediate skills and a third of users have advanced skills in Colombia and South Africa. Low-income MOOC users in the Philippines follow the trend expected for developing countries, where over 60% of low-income MOOC users have basic ICT skills.

Online searches, teachers or professors in an educational institution, and friends or family members are the three most important channels for users to first learn about MOOCs.

Social media does not play a major role as a channel for MOOC awareness, as only 14% of the total number of users across the countries identify this channel as the way through which they first learned about MOOCs. There are some variations across the countries that are important to point out, as

identifying the most effective channels for MOOC awareness can inform government and MOOC providers' strategies to promote these learning environments among young populations. In Colombia and South Africa, online search is the most commonly-used channel to learn about MOOCs (51% and 37% respectively). In the Philippines, on the other hand, people most commonly first learned about MOOCs through a teacher or professor in an educational institution (see figure 6 for the most commonly used channels to first learn about MOOCs).

Figure 8: Most popular channels to first learn about MOOCs by country



Across the three countries, several government agencies and employers interviewed for the research cited a lack of awareness about the potential of MOOCs among the general population as one of the major obstacles for increasing the engagement of young people. There is a general perception among these stakeholders that MOOC providers, either for-profit or not-for-profit, do not have well-developed advertising campaigns that target spaces where youth are active, in particular on social media.

Computer sciences, language, and business & management are the three most popular MOOC subjects across the three countries.

In Colombia and the Philippines, close to 40% of users enroll in computer science MOOCs compared to only 25% in South Africa, with a third of women in the first two countries reporting enrolling in these courses. Language courses are more popular in Colombia and the Philippines, with almost a third of users engaging in a language MOOC, compared with only 9% in South Africa (see figure 7 for the distribution of the whole sample by MOOC subject and figure 8 for the top MOOC subjects by country). A more detailed analysis on MOOC subjects in the context of different types of users is presented in the next section.

Figure 9: Distribution of MOOC subjects taken, all countries

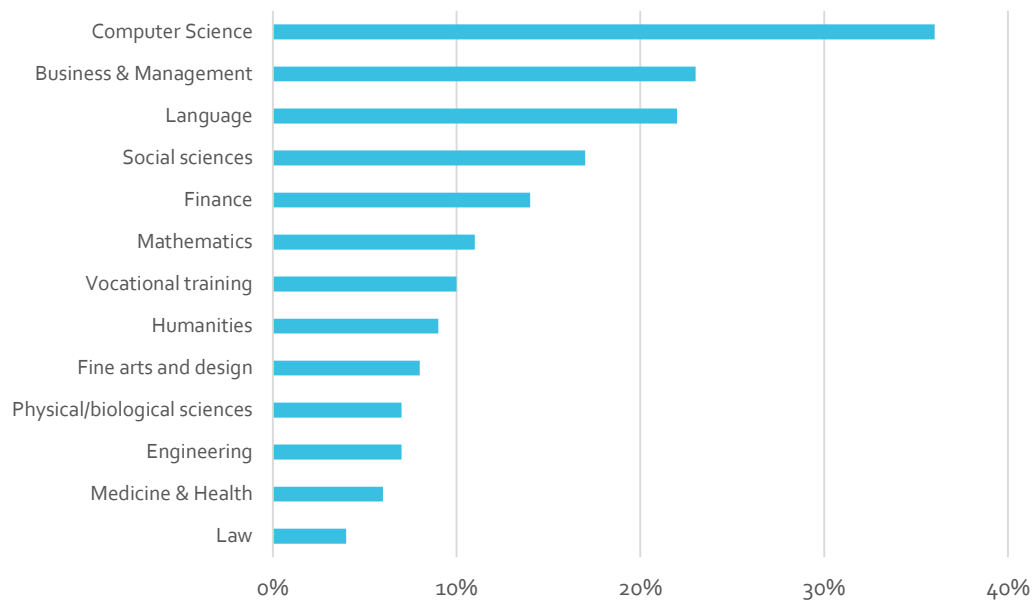
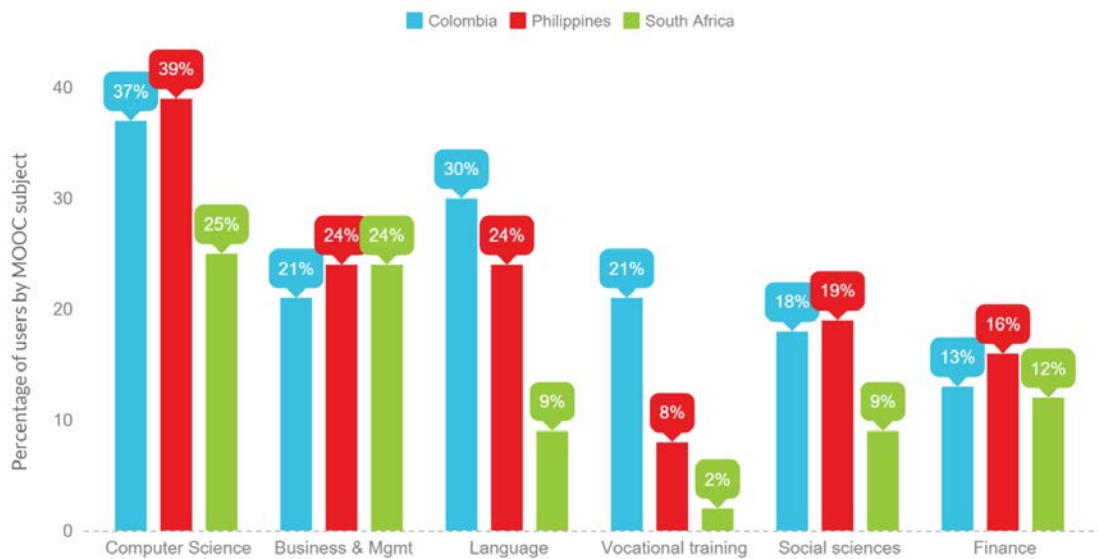


Figure 10: Most popular MOOC subjects taken by country



As will be detailed in Chapter 5, there has been an increased uptake in technical and vocational skills education and training among young people in the three countries, which can help contextualize the MOOC subjects that youth are choosing to engage in. In the Philippines, for example, the Technical and Education and Skills Development Authority (TESDA) – a government agency tasked to manage and supervise technical and vocational education in the country – initiated a MOOC program for all Filipinos,

including low-skilled overseas workers, that offers information technology courses for increasing IT technical skills of different populations. In addition, the University of the Philippines Open University (UPOU) recently partnered with the IT & Business Process Association in the Philippines (IBPAP) and the Asian Institute of Management to develop MOOC modules on e-Service management and advanced IT training as part of the overall mandate of the university to design courses specifically targeting skill development in the fastest growing job-creation industries in the country.

Similarly, in the case of Colombia, the National Service for Learning (SENA, for its acronym in Spanish), a workforce development and educational advancement government agency, has recently developed MOOC-like courses aimed at building up IT technical skills, vocational education, and English language proficiency among young workers in the country.

3.2 Obtaining new job skills & preparing for education drives MOOC use

There are a wide variety of reasons that motivate young people to engage in MOOCs, and as previous research points out, often times the very same motivations may also influence the users' learning experiences and expected outcomes. This section details what motivates users to take MOOCs in general. The following section provides more analysis on motivations by the four user types. For this research, motivations were grouped into three different, although not mutually exclusive, categories: employment-driven, education-driven, and personal fulfillment.

Gaining specific skills to perform better in a job, obtaining professional certification, preparing for additional education, and finding a new job are the top motivations of young people to engage with MOOCs.

Findings point out that it is usually a mix of motivations that drive young people to take MOOCs. However, employment-driven motivations seem to dominate MOOC users' engagement in the three countries (see figures 9-12). Across the three countries, men aged 18-26 reported taking MOOCs to gain skills and find a new job at a higher rate than women. In Colombia and South Africa, 45% and 34% (respectively) of younger men stated up-skilling in the search for a new job as one of their main motivations to engage with MOOCs, compared to 31% and 27% of women. In the Philippines, this difference is less acute with 27% of men and 25% of women reporting this as one of their main motivations. In terms of professional certification, the third most important motivation for the whole sample of MOOC users, there are almost no gender differences. Forty-nine percent of women and 52% of men cited this as one of their main drivers for pursuing additional education through MOOCs. Similarly, young people from low-income backgrounds are more likely than medium-income users to take MOOCs based on motivations of gaining skills to find a new job.

Figure 11: Main motivations for taking MOOCs, all countries

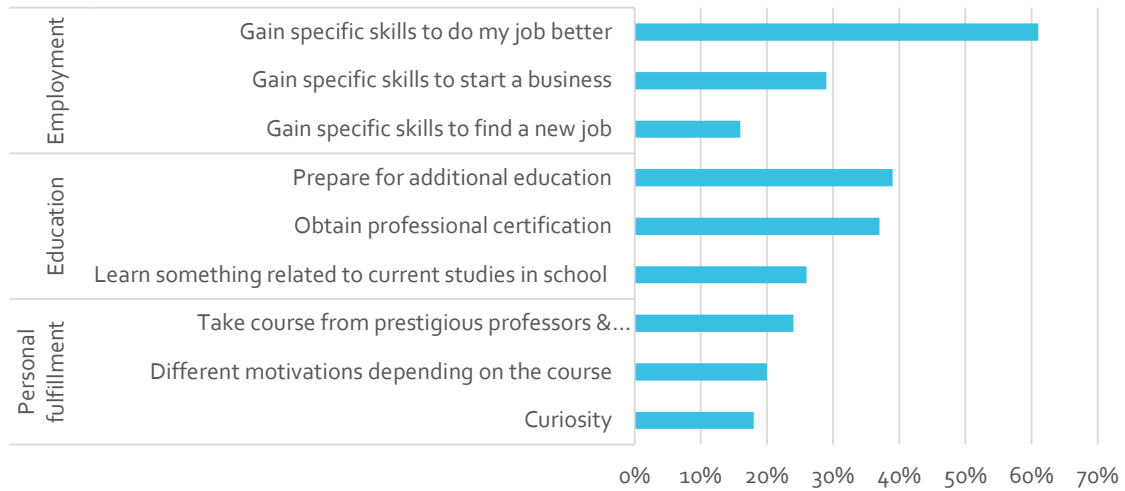


Figure 12: Main motivations for taking MOOCs in Colombia

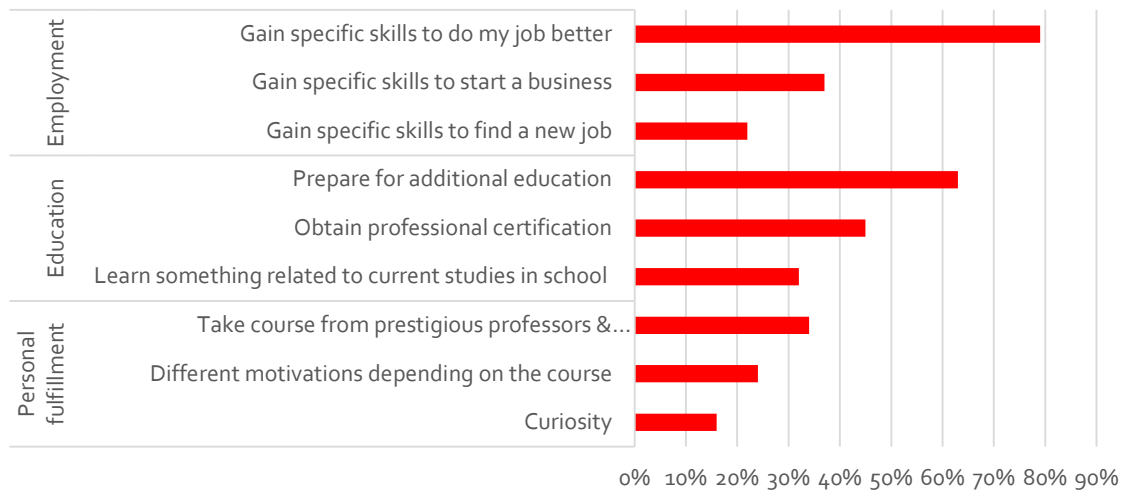


Figure 13: Main motivations for taking MOOCs in the Philippines

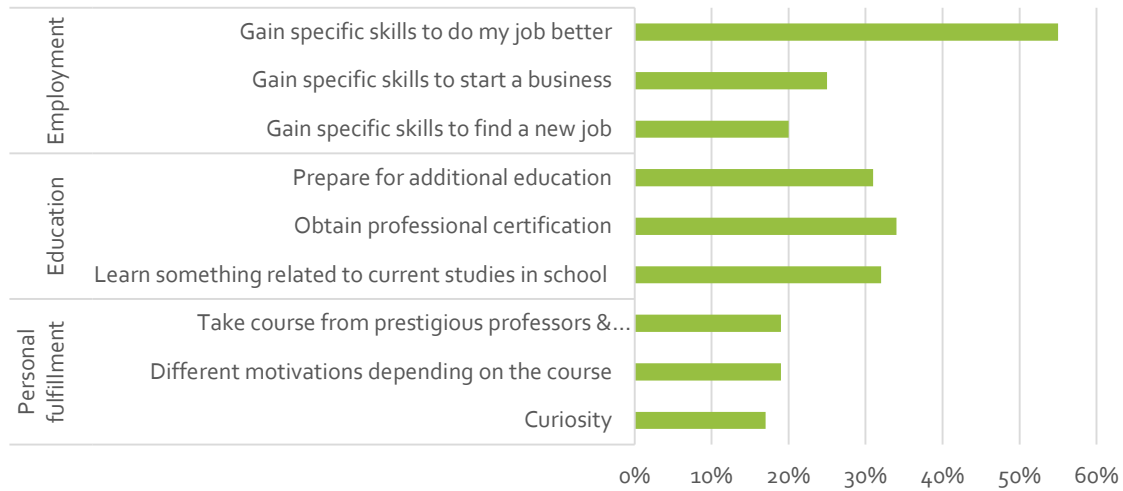
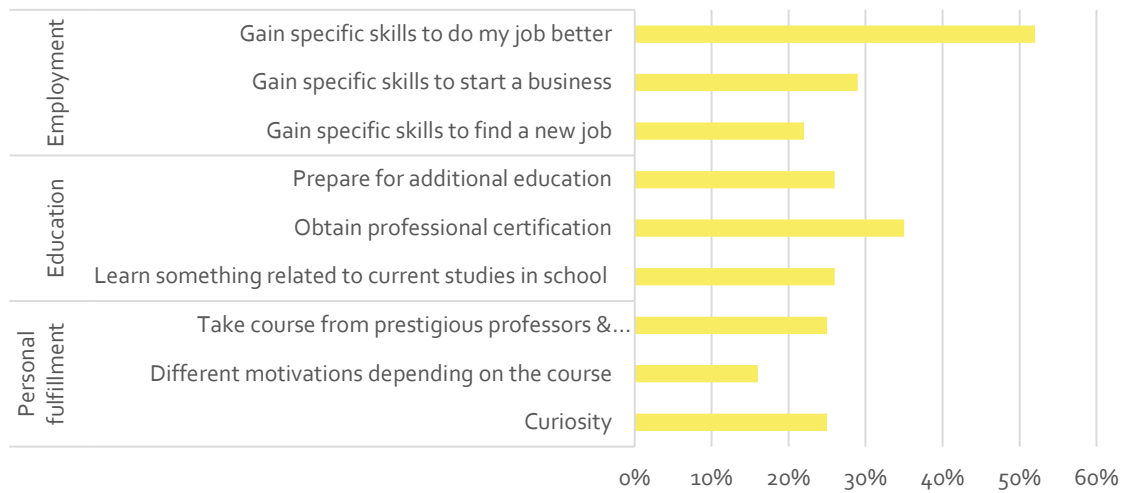


Figure 14: Main motivations for taking MOOCs in South Africa



The above sections describe who MOOC users are and what motivates them to take MOOCs. The following section details how users engage with MOOCs and presents the four types of users that emerged from the analysis.

3.3 MOOC users overwhelmingly complete MOOCs and obtain certification in MOOC courses

Understanding how users navigate through a MOOC and teasing out possible explanations for user behavior and likelihood of course completion is one of the most fruitful research areas on MOOCs. Past research has developed different categories of users based on their level of engagement with the MOOC by mapping out patterns of behavior that may deter or foster course completion. The low completion rates exhibited by the vast majority of MOOC users in the most prominent MOOC platforms (Coursera, EdX, Udacity, etc.) has encouraged researchers to look closely at how users interact with the material, peer-to-peer discussion forums, assignments, and other features of these courses. Most of the research in this area is based on log data collected for a specific MOOC or a group of MOOCs in a given platform, and often complemented by student surveys.

For the MOOC users in Colombia, the Philippines, and South Africa, we used a similar approach but created different categories of users based on the highest MOOC experience achieved based on users self-reported data on the MOOC participation section of the survey¹¹. This modified approach classified users in these countries into four general types:¹²

1. *Registrants*: users that did not engage with the course after registration;
2. *Browsers*: users that browsed some course material for at least one course but did not complete the course;
3. *Completers*: users that completed at least one course but did not obtain certification;
4. *Certified*: users that completed at least one course and obtained certification.

The section explores MOOC behavior through the lens of these user types. Registrants were excluded from the analysis because they accounted only for 2% of users across the three countries. The analysis focuses on understanding the characteristics of browsers, completers, and certified users, outlining the common characteristics for each type and seeking potential explanations for different patterns of MOOC behaviors. Users' motivations for engaging in MOOCs and their perceived benefits for employability were taken into consideration in the classification for the analysis (see figure 13 for the distribution of user type per country).

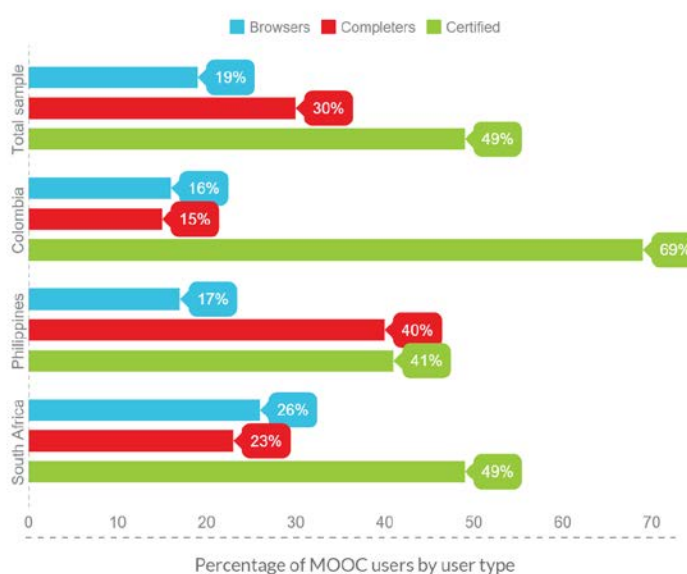
¹¹ MOOC log data was not available for this study.

¹² By definition of the user sample, everyone starts in the "registered" group since that is the basic criteria for administering the user survey. Construction of the groups proceeded in a hierarchical manner. If a respondent browsed one or more courses, but did not complete any, they move from the "registration" group to the "browsers" group. If they completed one or more courses, they are no longer in the "registered" or "browsers" groups but rather in the "completers" group. This includes the "None" response from Q3.2, which is actually "None – I completed all the courses I registered for," also putting them into the "completers" group. To achieve the "certified" level, a respondent must have registered, completed one or more courses, and been certified in one or more courses as well. Browsing is not a prerequisite to either completion or certification levels.

Overview of MOOC user types

When it comes to completion and certification, users in the developing world seem far ahead of their developed world peers: **almost half (49%) of MOOC users surveyed receive certification for at least one course. The rate is even higher — 70% — when limited to employed respondents. Nearly 80% of all MOOC users said they had completed at least one course.** While the rate of students in the U.S. and Europe completing at least one MOOC is not known, individual course completion rates in those regions are estimated between just 5% and 10%. Only 19% of users reported not completing a course or getting certified in a course.

Figure 15: MOOC user types by country



Characteristics of browsers

Browsers represent 19% of the total sample of users: Colombia has the lower number of users in this category and South Africa the highest (16% and 26% respectively). Browsers tend to be the youngest users: 45% are between 18 and 23 years old, but their presence is significantly different in the three countries. Browsers in the Philippines are the youngest, with almost 70% falling into the 18-23 age bracket. In Colombia and South Africa, browsers are more distributed across age brackets, and the highest percentage (24% and 19% respectively) are between 24-26 years old.

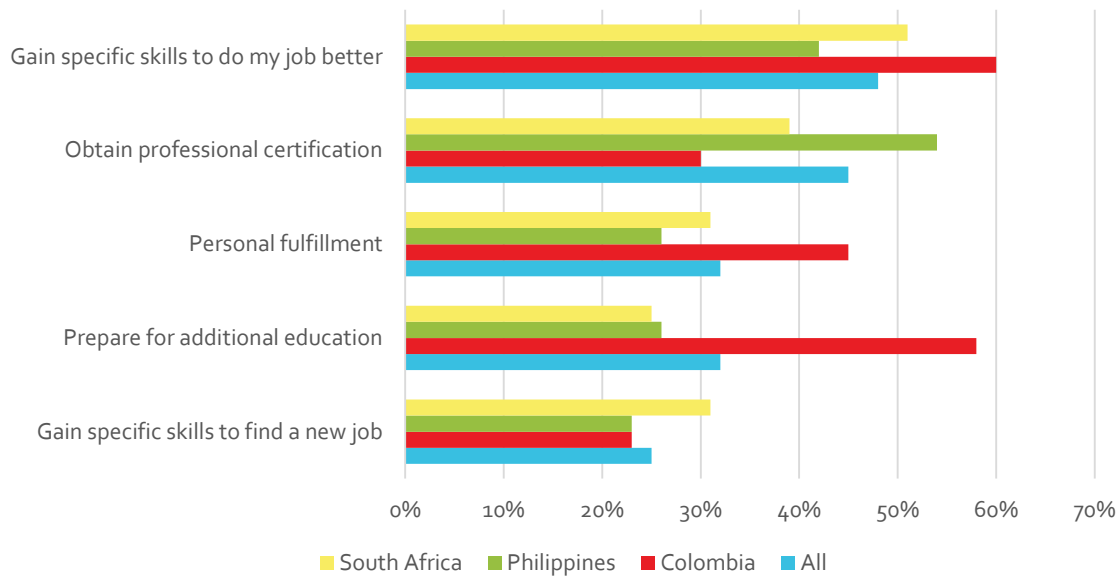
Users' level of education does not seem to explain differences in MOOC behavior: browsers come from the whole spectrum of the educational continuum. The only significant difference was found in the Philippines, where almost 50% of browsers hold only a high school degree; the highest percentage of users with this educational level compared to the other two countries. In terms of gender, slightly more men than women seem to belong to this category of users having browsed at least one course, except in South Africa, where women represent 65% of browsers.

Income level is also evenly spread with a slightly higher proportion of young people from low-income backgrounds making up the browsers group for the whole sample (42%, compared to 36% for medium-income users). This pattern is found in the Philippines and South Africa but not in Colombia, where the vast majority of browsers come from medium income backgrounds (71%). In terms of employment status, the majority of browsers in South Africa and Colombia were employed at the time of the survey (63% and 69% respectively). Since the sample of MOOC users in the Philippines is generally younger, almost 60% of browsers were still in school at the time of the study.

Looking at browsers' ICT skill levels, the Philippines follows a more expected pattern in relationship to skill level and MOOC behavior: seventy percent of browsers in the country have only basic ICT skills. Lower ICT skill levels in Colombia, however, does not explain why users would stop at browsing when taking MOOCs; only 17% of browsers in this country reported having basic skills. Many browsers in Philippines (49%) and South Africa (55%) use mobile phones as the main device to access the internet, which could potentially be one of the factors influencing their MOOC behavior and preventing them from completing a MOOC, as very few MOOC courses are designed to work on mobile platforms. Coursera, the biggest global MOOC provider, announced the launch of its mobile application for Androids and iPhones just as recently as the beginning of 2015, but it is unclear whether MOOC providers in the three countries currently offer this mobile option (see figure 15 for the main device used for accessing the internet by country and user type).

Considering the whole sample of browsers, this type of user seems to have very similar motivations to participate in MOOCs as completers and certified users. Browsers are motivated at the same rate as certified users to take MOOCs in preparation for professional certification and are very similar to completers in terms of gaining skills to perform better in their job. Forty-five percent of browsers reported professional certification as one of their main motivations for engaging in MOOCs, and 48% for up-skilling to perform better at their current job (see figure 14 for top five browsers' motivations in the three countries). It is possible that this type of user is seeking specific skills from a course, probably included in some of the lessons that help them prepare for the professional certification without the need to engage in the full length or material of the course. There are some variations for browsers' motivations across the three countries, except in using MOOCs for gaining specific skills to find a new job. Between 25-30% of all browsers in Colombia, the Philippines, and South Africa reported using MOOCs driven by this motivation.

Figure 16: Top five motivations for browsers to take MOOCs by country



If motivations for taking MOOCs do not seem to fully explain why young people decide to browse through some of the course material but not complete the MOOC, looking closer at learning and technical challenges these users face may offer a more nuanced account of their behavior. Almost a third of browsers across the three countries find it difficult to learn without face-to-face interaction. This is more so for browsers in Colombia, where 37% of this type of user reports facing this challenge when taking MOOCs. By far, lack of time and the high workload demanded for the course are the top two learning challenges browsers face across the three countries. Although these two challenges are common across the three user types, browsers report them at a higher rate than completers and certifiers. For example, 46% of browsers in South Africa report these challenges compared to 36% of completers and 31% of certifiers. In the Philippines, close to 60% of browsers face this difficulty, compared to only 42% of completers. A learning challenge that seems to be unique to Colombia's browsers is the limited availability of courses in their native language. Close to 25% of browsers in the country reported this challenge, compared to only 5% and 7% of browsers in the Philippines and South Africa respectively.

Technical challenges related to the quality of ICT access are more critical for the three types of users in the Philippines, and to a lesser extent in South Africa than in Colombia. Internet speed, available of ICT access, and cost are the top three challenges that Filipino and South African browsers face. As high as 70% of browsers in the Philippines and close to 40% in South Africa face this infrastructure-related challenge, compared to only 20% of this type of user in Colombia. Colombian browsers, on the other hand, report at a higher rate of technical challenges related to the actual design of the MOOC. For these users, difficulty navigating the course website, poor troubleshooting, and lack of technical assistance are the biggest challenges they confront when taking MOOCs. A very small percentage of Filipino and South African browsers face challenges related to MOOC design and format of the course.

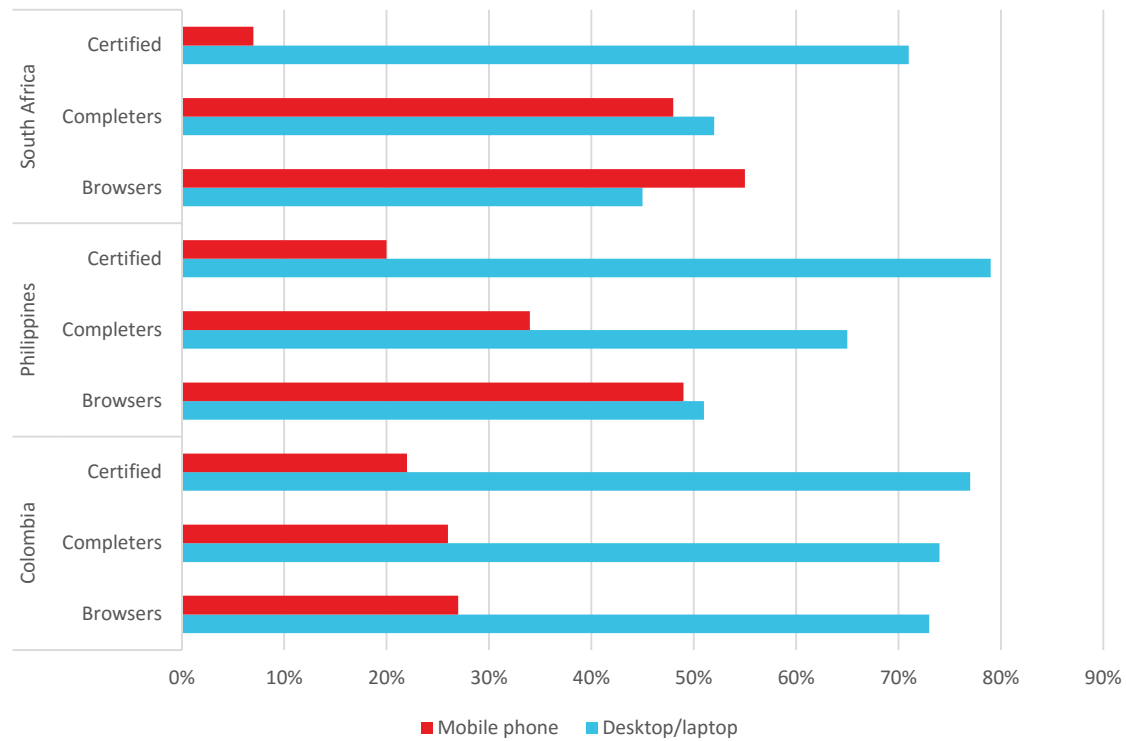
Characteristics of completers

Completers make up 30% of the total sample of MOOC users when looking at the three countries together. Completers represent as high as 41% of users in the Philippines and as low as only 15% in Colombia. Completers in South Africa are the youngest among the three countries, with 53% ranging between 21-26 years old. Half of the completers in Colombia are older than 27 years old. In general, these users have a slightly higher level of education than browsers, with 47% reporting a college degree and above. This, however, varies significantly among the three countries. Filipino completers show the highest level of education, with over 50% having a college degree or above, compared to 29% of Colombian and 27% of South African users. Most of South African and Colombian completers have a vocational degree (54% and 70% respectively).

In terms of employment status, completers follow a similar pattern as browsers. Forty-two percent of completers are employed and 53% are still in school. The highest employment level among completers is in Colombia (76%) followed by South Africa (52%). The vast majority of Filipino completers are still in school (62%). Women make up 62% of the completer group. This ranges from 50% of women completing at least one course in Colombia to 63% in the Philippines, and as high as 68% of women in South Africa. This gender pattern also holds true for certified users. In terms of income, almost half of completers in the Philippines and South Africa come from low-income backgrounds. Completers in Colombia show a higher income level with 73% of these users in the medium income level.

Colombian completers show the highest ICT skill level of all users in this category and also the highest proportion taking MOOCs in computer sciences. Almost 40% of Colombian completers have advanced ICT skills, compared with 27% of South African completers and only 5% of Filipino completers. It is interesting to note, however, that lower ICT skills are not an obstacle for 60% of this type of user in the Philippines to complete a course, but the vast majority of these users take courses in subjects that may not require a higher level, such as business and management (30%) and social sciences (21%). Even though the skill level of completers is slightly higher than browsers, there are still many young people in this category of users completing courses with low or intermediate ICT skills, but this factor alone does not seem to fully explain the behavior of completers. A different picture emerges when looking at the main device used for accessing the internet by different type of users. The higher the use of a desktop or a laptop, compared to a mobile phone, the higher the likelihood that users progress in the MOOC cycle, except in Colombia where there is a wider spread of desktop or laptop use among the three types of users. Users in Philippines and South Africa achieve a higher level of MOOC progress as the use of mobile phone as the main device for accessing the internet decreases and desktop or laptop use increases (see figure 15 for main device used by user type in each country).

Figure 17: Main device use for accessing the internet by user type by country



In terms of challenges, lack of time and course workload demand are not as big of an obstacle for completers in the Philippines and South Africa as it is for browsers in the same countries. In Colombia, on the other hand, completers reported these two as the highest learning challenges they face when taking MOOCs at a higher rate than both browsers and certified users in the same country. See figures 16 and 17 for a detailed representation of learning and technical challenges the three different types of users face when engaging with MOOCs.

Figure 18: Main learning challenges by user type, all countries

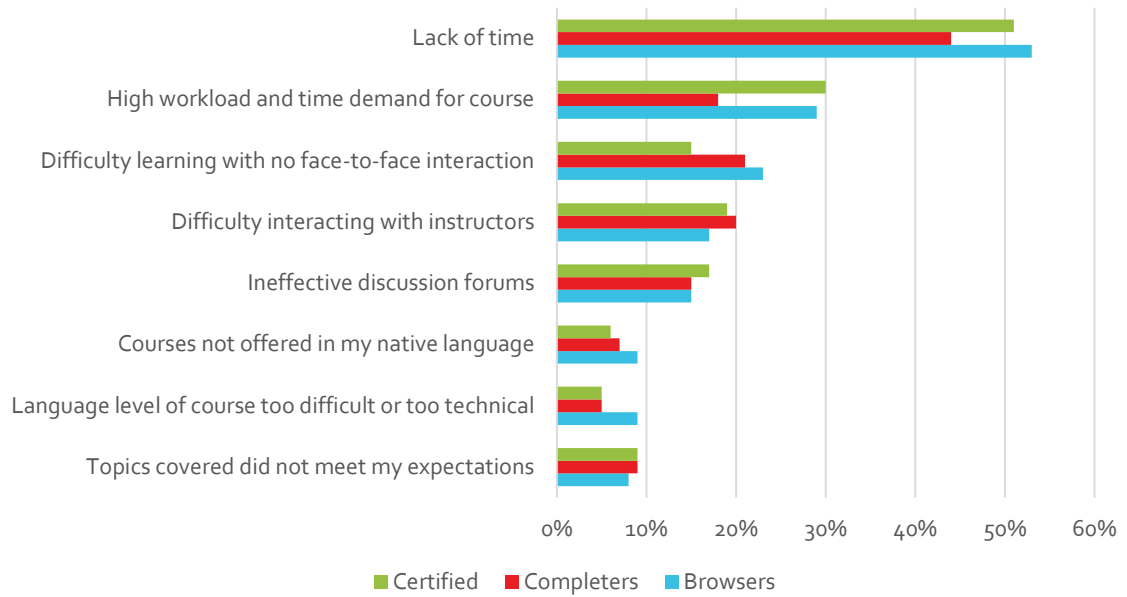
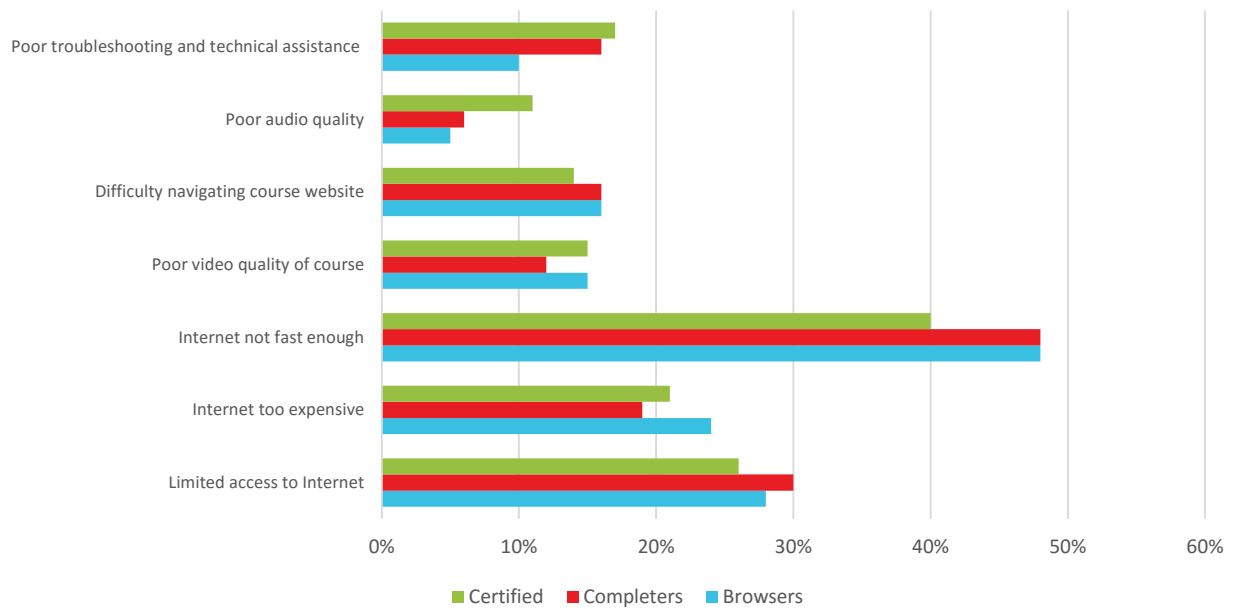


Figure 19: Main technical challenges by user type, all countries



Characteristics of certified users

Young people who certified for at least one course represent the highest percentage of MOOC users in the total sample. Colombia has the highest proportion of certified users with almost 70%, followed by South Africa with 49% and the Philippines with 40%. The high rate of completion and certification across MOOC users in the sample is unprecedented. Even though it is not possible to fully discern from the survey data the reasons why so many young people achieve the highest level of MOOC achievement, there is one common element they share across the three countries. The vast majority of MOOC users in Colombia, Philippines, and to a lesser extent, South Africa, were sampled from government educational agencies tasked with promoting skill development and educational attainment to improve the employability for young people and incorporating MOOCs in their distance learning programs [in Colombia, the National Service for Learning (SENA); in the Philippines, the Technical, Education, and Skills Development Authority (TESDA); and in South Africa, the distance learning program offered by the University of South Africa (UniSA)]. These institutions are highly regarded for academic achievement in their respective countries and carry a solid reputation among employers and society at large (see Chapter 5 for a more elaborate description of their role in the educational landscape of the target countries).

There are some slight differences of certified users in terms of their demographic composition when compared to completers and, especially, browsers. These users are the oldest of the three types. Forty-six percent for the total number of certified users are consistently between 27-35 years old across the three countries. In the Philippines, certified users have much higher levels of education (84% have a college degree or above) than in Colombia and South Africa, where only 16% and 31% of certified users report having a college education. South African certified users come from a more mixed educational background than in the other two countries. Almost half have a vocational degree and over 20% have a high school diploma. In Colombia, the vast majority of these users have a vocational degree (70%) and 14% have only a high school education.

In addition to being older and slightly more educated, most of them are employed. Employment rates for certified users far exceeds those of completers in South Africa (76% compared to 52%) and those of completers and browsers in the Philippines where 69% of certifiers users are employed compared to a third of completers and a third of browsers. There is no difference in employment status for certified users in Colombia compared to the other type of users, of which over 70% are employed. Women again show higher levels of certification than men in Colombia (53%) and South Africa (60%). In the Philippines, the certified users group is evenly split in terms of gender. In terms of income, over a third of this type of user in Colombia and South Africa come from low-income backgrounds.

The final section of this chapter outlines the perceptions of benefits users have when it comes to how MOOCs do or do not contribute to workforce development.

3.4 What are MOOC users' perceptions of benefits in terms of workforce development?

MOOC user perceptions of benefits with regard to workforce development paint an interesting picture as well. For this analysis, we compare users across income and educational levels. As the following figures show, those with lower income and lower education rate the benefits of MOOCs more highly than those with higher income or greater education.

In terms of income, the top three categories for low-income users are learning skills to succeed in a new job (57%), preparing for professional certification or exam (54%), and finding a new job (53%). For medium-income users, the top three are learning skills to succeed in a new job (50%), earning a promotion in current job (49%), and starting a new business. However, for high-income users, the top three are starting a new business (44%), finding a new job (43%), and learning skills to succeed in a new job (42%). Thus, the priorities of different income categories do seem to differ slightly in how they perceive the benefits of MOOCs. However, the general trend is consistently that users with low incomes rate MOOCs as more important in every category than those with medium or high incomes.

In terms of education, we see a similar pattern. In all but one category, those with a high school or less education rate MOOCs as most important, followed by users with vocational education, and users with university and above rating MOOCs as least important. Specifically for users with a high school degree or less, the top three categories are learning skills to succeed in a new job (63%), finding a new job (62%), and preparing for a professional certification or exam (58%). For those with a vocational education, the top three are learning skills to succeed in a new job (53%), preparing for a professional certification or exam (51%), and starting a new business (50%). For those with a university and above education, the top three are learning skills to succeed in a new job (46%), earning a promotion in current job (44%), and finding a new job (43%). The exception to this pattern is the category "improving management of current business," where users with vocational education rate MOOCs as slightly more important than those with either other education level.

Figure 20: Importance of skills gained in MOOCs for employability outcomes for all MOOC users by income level, all countries

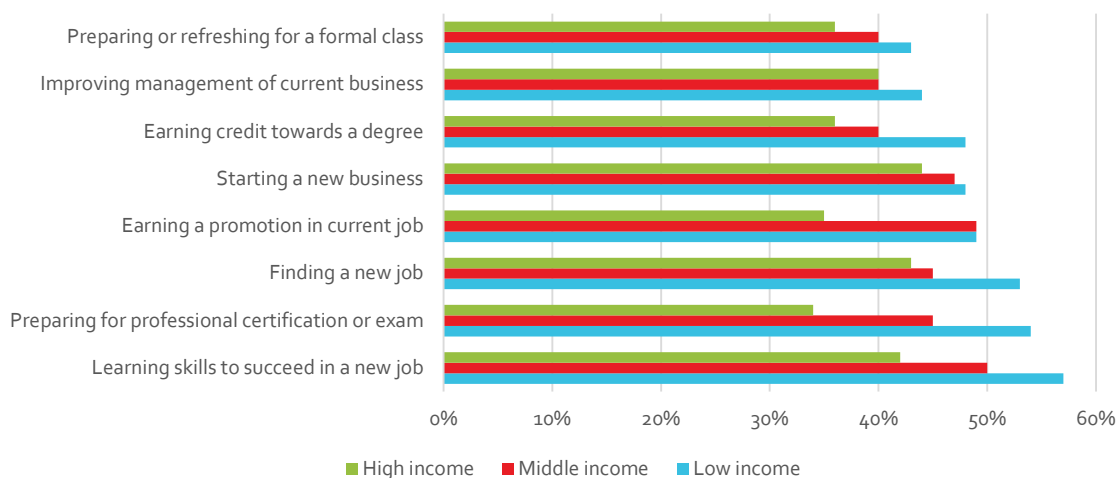
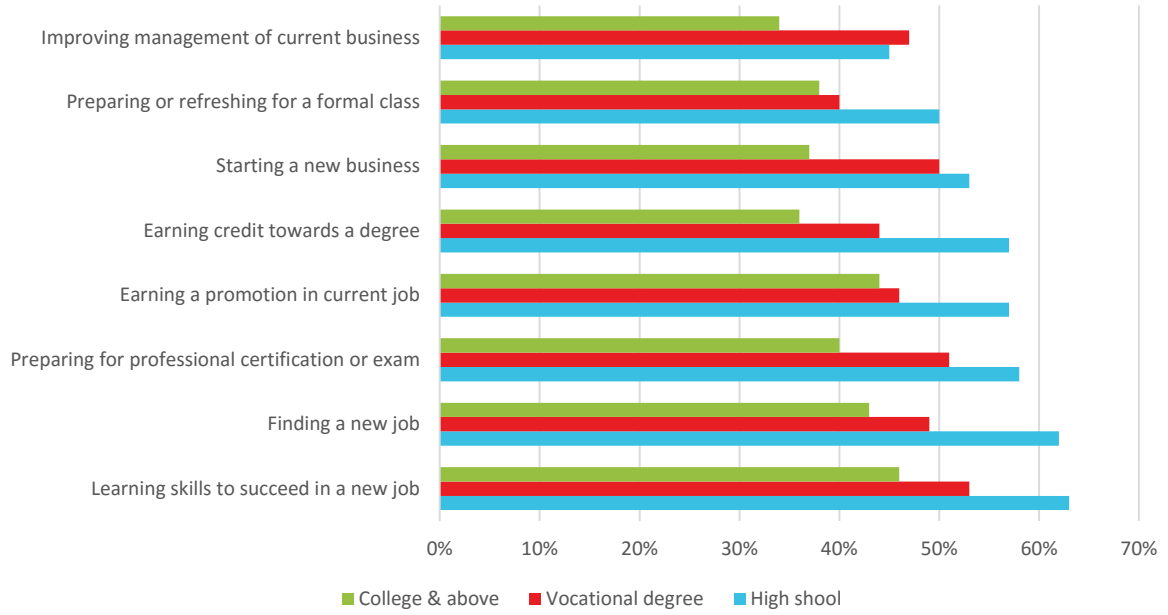


Figure 21: Importance of skills gained in MOOCs employability outcomes all MOOC users by educational level, all countries



4 Who isn't using MOOCs and why?

The research on MOOCs currently focuses entirely on those who have taken or are taking MOOCs. The research presented in this chapter is a first attempt to capture the who and the why surrounding non-users of these online learning spaces. For this study, a non-user is defined as somebody over 18 years old who has not previously engaged with a MOOC. Since the reasons for non-use play a critical role in this analysis, it is also important to classify non-users into two distinct sub-groups: those who are aware of MOOCs and those who are not aware.

By focusing on non-users, this component of the research aims to complete the baseline information landscape surrounding MOOCs. Of particular interest are the reasons for non-use: is it demographics, lack of access to ICTs, lack of awareness, negative perceptions of online learning, or something else? Specifically, this chapter will try and answer several important questions:

- What, if any, are the demographic differences between MOOC non-users and users? Between aware and not-aware non-users?
- Among aware non-users, what are the reasons for not taking MOOCs?
- Are there factors that would increase the likelihood of participation in MOOCs, especially in regards to professional development and employment?
- Do perceptions about online learning in general differ between MOOC users and both types of non-users?

This chapter includes key findings, followed by a detailed analysis of demographics, reasons for non-use, factors to increase participation, and perceptions of online learning. There are two consistent comparisons: between non-user types (aware and not aware of MOOCs) and between the three target countries.

Key findings

For those 18 and older who have not taken a MOOC:

- **Education level is high for non-users:** 48% of those aware of MOOCs have a college degree or above, as well as 43% of those not aware.
- **Non-users largely belong to lower income groups:** only 9% (aware of MOOCs) and 8% (not aware) are in the high income category.
- **Non-user ICT skills are low, especially for those not aware of MOOCs:** 39% (aware) and 50% (not aware) report basic skills, 36% (aware) and 37% (not aware) report intermediate skills, and 25% (aware) and just 13% (not aware) report advanced skills.

- **Thirty-eight percent aware of MOOCs and 44% not aware use a mobile phone or smart phone as their main device to access the internet.**
- **Among non-users aware of MOOCs, lack of time was by far the biggest reason for not taking MOOCs (50%).** This was followed by a preference to learn in a classroom with other students (23%).
- **Lack of computer access or skills is not a barrier for non-users aware of MOOCs:** only a few percent cite computer skills (2%), computer access (4%), or internet cost (6%) as reasons for not taking MOOCs (however, 14% cite internet speed as a factor).

4.1 Non-users: Young, educated, & skilled

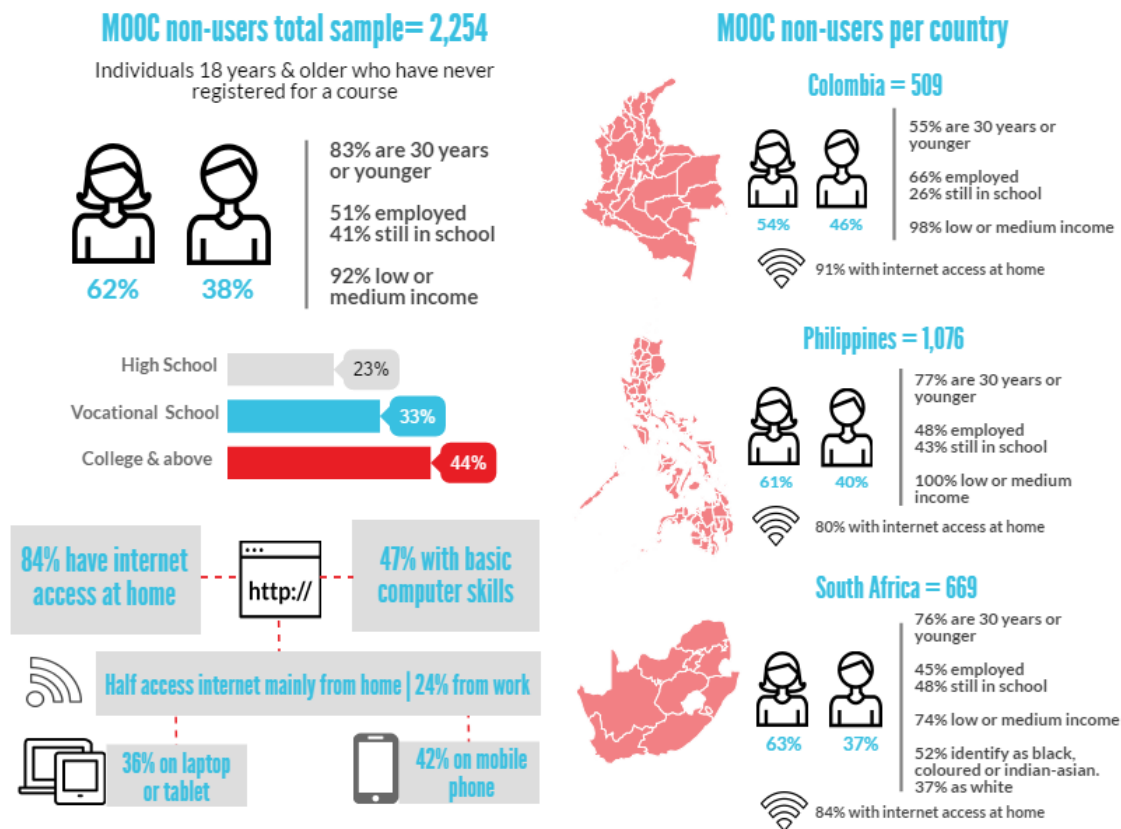
Non-users tend to be young (28% aged 18-20 years old, and 60% aged 18-26 years old) and fairly well educated (33% have completed vocational school and 44% have completed university and above). Only 6% of the sample was unemployed, the remainder split between employed (51%) and students (41%), with 2% reporting other (such as retired). By income level, non-users are predominantly in the low and medium brackets (50% and 42%, respectively), and only 8% fall into the high category (see figure 20 for a summary of the characteristics of non-users).

Non-user ICT skill levels are mostly basic (47%) and intermediate (37%), with only 16% reporting advanced levels. By far the most common place for internet access was home (54%), followed by work (24%), and school/university (14%). The most commonly-used device to access the internet is the mobile phone or smart phone (42%), followed by a portable laptop or tablet (36%), and a desktop computer (21%).

Seventy-nine percent of the 2,254 non-users surveyed were not aware of MOOCs. Differences between non-users aware of MOOCs and those not aware, in terms of demographics, are actually minimal. This in itself is an interesting finding in that, for example, those not aware are not universally older or less educated. The two largest differences are seen in employment status and ICT skill. Fifty-six percent of those aware are employed, compared with 49% of those not aware. Also, 25% of those aware have advanced ICT skills, compared with just 13% of those not aware.

The most common place of internet access does not differ between aware and not aware groups, however a higher percentage of those not aware of MOOCs use a mobile phone as their main access device (44%, versus 38% of those aware of MOOCs).

Figure 22: Characteristics of non-users¹³



4.2 Non-users show variation by country & type

The non-users discussed above are combined from the three target countries: Colombia, the Philippines, and South Africa. These countries may have very different conditions and perceptions that affect MOOC use and non-use, so it is also important to explore differences among these three countries. The non-user sample size was 509 in Colombia (30% aware of MOOCs), 1,076 in the Philippines (19% aware of MOOCs), and 669 in South Africa (17% aware of MOOCs). Overall, non-user demographic differences between countries were usually larger than any within-country differences between aware and not aware non-users.

In terms of age, non-users in Colombia tended to be slightly older than those in the Philippines or South Africa. Of those aware of MOOCs in Colombia, 33% were aged 18-26, compared with 59% in the

¹³ 47% of MOOC non-users identified as having basic ICT skills, 37% of MOOC non-users have intermediate ICT skills, 16% of MOOC non-users have advanced ICT skills

Philippines and 73% in South Africa. Similarly, of those not aware of MOOCs in Colombia, 39% were aged 18-26, compared with 70% in the Philippines and 60% in South Africa.

There are some differences in the number of students between the countries and by non-user type. Among the non-users aware of MOOCs, students make up 25% in Colombia, 30% in the Philippines, and 55% in South Africa. For those not aware of MOOCs, students make up 27% in Colombia, 46% in the Philippines, and 46% in South Africa. It is somewhat surprising that, when comparing the two non-user types, students do not make up a consistently higher percentage of those aware of MOOCs than those not aware. Although unexpected, this could have positive implications: if substantial numbers of non-students are aware of MOOCs, this opens the possibility for professional development to take place if they were to participate in MOOCs.

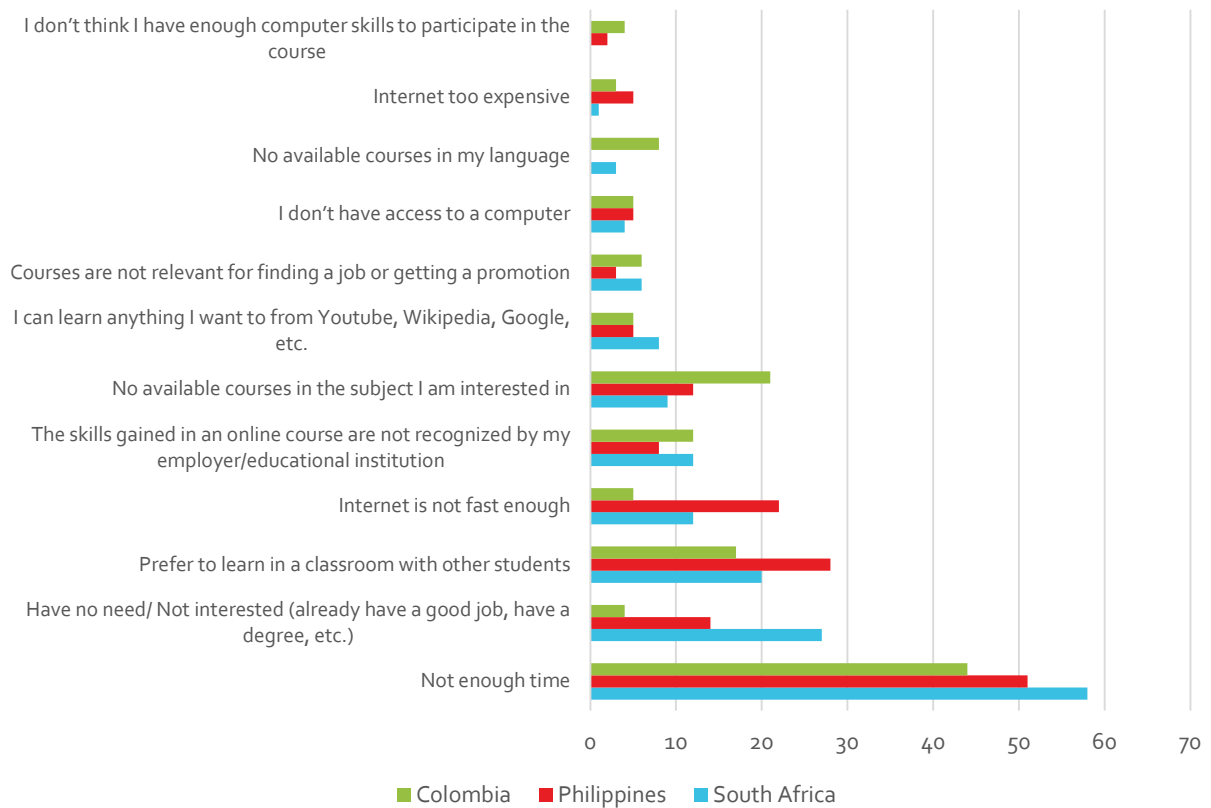
There are dramatic differences between the countries in terms of education level. For non-users aware of MOOCs, a university and above education is reported by 10% in Colombia, 76% in the Philippines, and 43% in South Africa. For those not aware of MOOCs, the numbers are similar: a university and above education is reported by 5% in Colombia, 67% in the Philippines, and 26% in South Africa. This again illustrates that the differences between countries can be quite significant.

By income level, there are some notable differences between the countries as well. Respondents in South Africa are the only ones with large numbers in the high income category, and in relatively high percentages: 38% of those aware, and 24% of those not aware. This compares to 1% (aware) and 2% (not aware) in Colombia. On the other end of the spectrum, the Philippines had the most non-users in the low-income category (58% aware, and 78% not aware), followed by Colombia (35% aware, and 42% not aware), and South Africa (34% aware, and 31% not aware).

4.3 Lack of time tops reasons for non-use

The set of non-users aware of MOOCs were also asked which reasons (from a list) were factors in their non-use. As there are many more possible reasons for non-use than could fit in this survey, this study focused on two categories: situational/preferential reasons (not enough time, prefer to learn with other students, etc.) and technical reasons (no access to a computer, internet speed too slow, etc.). In the three target countries, the top reasons given for non-use are: not enough time (50%), prefer to learn in a classroom with other students (23%), have no need/not interested (14%), no available courses in the subject I am interested in (14%), and internet not fast enough (14%). Other technical reasons were rarely cited, such as internet cost (6%), no access to a computer (4%), no available courses in my language (3%), and not enough computer skills (2%). See figure 21 for the complete distribution of reasons for non-use.

Figure 23: Reasons for not taking MOOCs, non-users who are aware of MOOCs (%)



Thus it seems that the primary reasons for non-use are situational (not enough time, have no need/not interested) and preferential (prefer to learn in a classroom). Internet speed is also a factor, mattering the least in Colombia (5%), followed by 12% in South Africa, and a much higher 22% in the Philippines. What does not seem to substantially factor into non-use are technical factors such as computer access, internet cost, and, especially, a lack of computer skills. Additionally, the availability of learning via informal online channels (YouTube, Wikipedia, Google, etc.) does impact non-use.

Specifically related to employability and professional development, only 5% of non-users report that the courses are not relevant for finding a job or getting a promotion, and only 10% report that the skills gained in an online course are not recognized by their employer/educational institution.

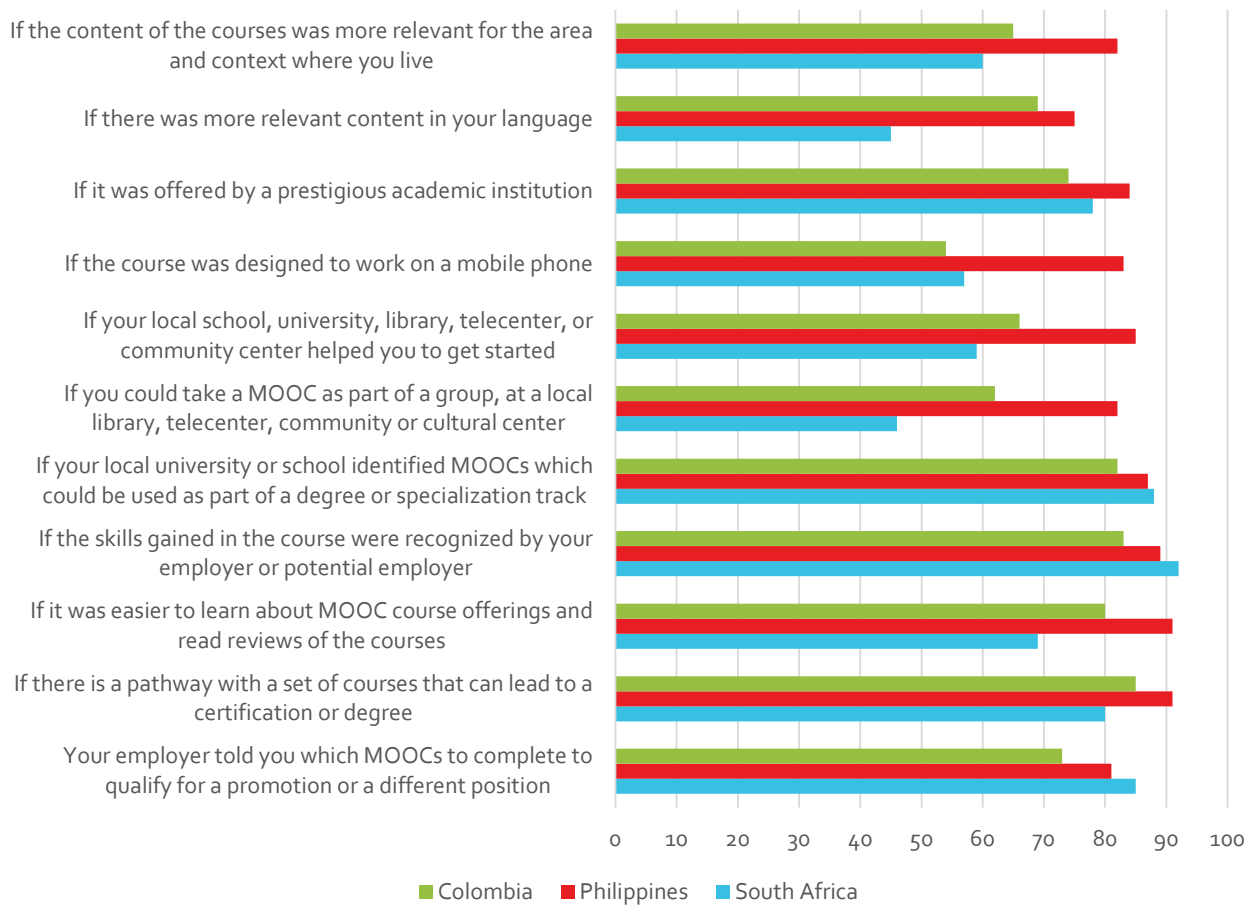
Across the three countries, the top reasons for non-use remain largely the same. The number one reason is identical – not enough time (44% in Colombia, 51% in the Philippines, 58% in South Africa). In Colombia, this is followed by no available courses in the subject I am interested in (21%) and prefer to learn in a classroom with other students (17%). In the Philippines, many prefer to learn in a classroom with other students (28%) and have no need/are not interested (14%). In South Africa, the top reasons for non-use are no need/not interested (27%) and prefer to learn in a classroom with other students (20%).

4.4 Employee recognition, certification, & school integration could increase participation

Aside from insufficient time, there do not appear to be any major factors inhibiting MOOC use. In addition to questions on barriers, non-users were also asked whether certain factors would make them more likely to participate in MOOCs. This may also shed light on factors not covered in the previous discussion. Responses are on a scale from “very likely” to “not likely.” For this analysis, the responses for each statement are combined into “very likely” plus “likely.”

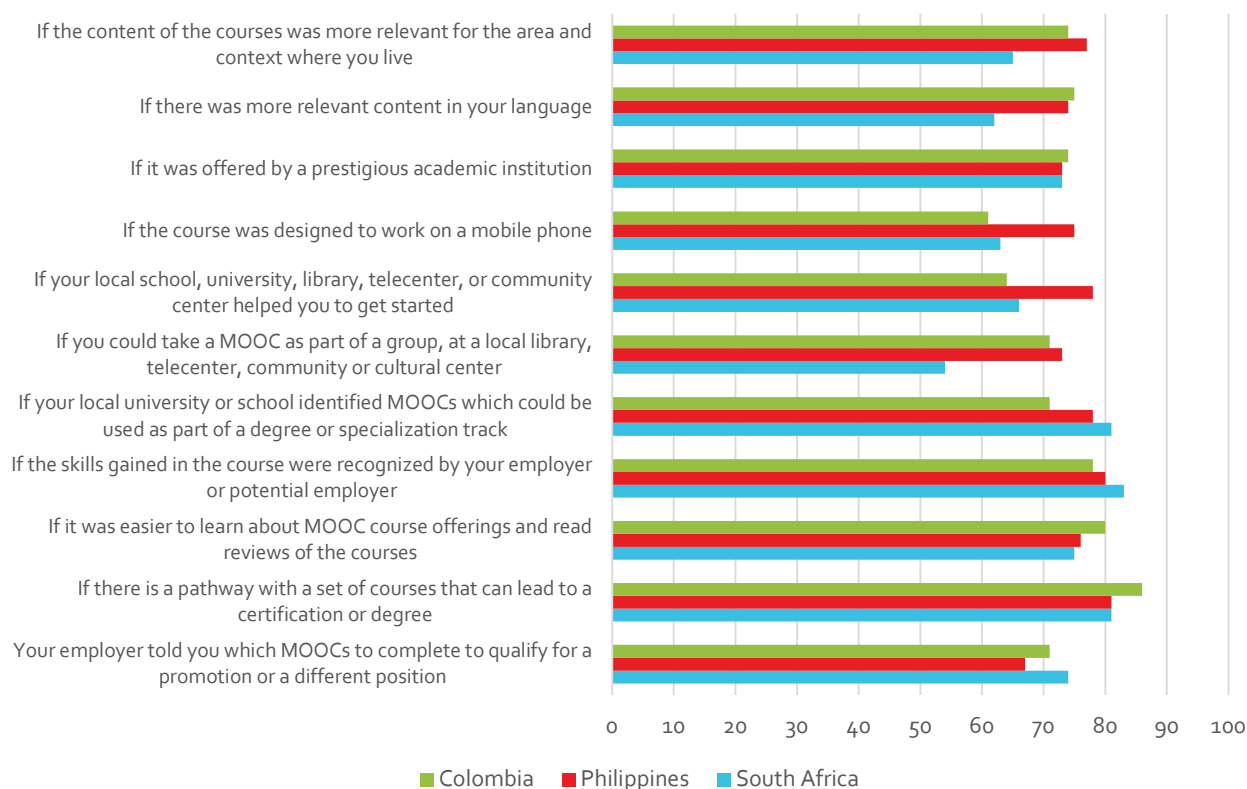
Interestingly, the top three factors (for both aware and not aware groups) focused on employability and certification – “if the skills gained in the course were recognized by your employer or potential employer” (88% aware, 81% not aware), “if there is a pathway with a set of courses that can lead to a certification or degree” (86% aware, 82% not aware), and “if your local university or school identified MOOCs which could be used as part of a degree or specialization track” (86% aware, 77% not aware). This suggests that it could be beneficial to turn the MOOC experience into a structured approach (such as a defined sequence of courses to earn credit in a certification track/degree), recognized by either employers or accredited educational institutions, to increase participation. See figure 22 for the complete distribution of factors to increase likelihood of taking MOOCs for aware non-users.

Figure 24: Factors to increase likelihood of taking MOOCs, non-users aware of MOOCs (%)



There are some interesting differences by country. “If the course was designed to work on a mobile phone” was rated higher in the Philippines (83% aware; 75% not aware) than in Colombia (54% aware, 61% not aware) and South Africa (57% aware, 63% not aware). “If there was more relevant content in your language” is more of a factor in South Africa for those not aware of MOOCs (62%) versus those aware of MOOCs (45%). See figure 23 for the complete distribution of factors to increase likelihood of taking MOOCs for not aware non-users.

Figure 25: Factors to increase likelihood of taking MOOCs, non-users not aware of MOOCs (%)



However, the data is difficult to interpret because respondents ranked every statement high. Moreover, some of the factors seem to contradict the findings on barriers above. For instance, only 10% of respondents stated that workplace/educational institution recognition was a barrier, and yet it is the number two factor that would increase participation.

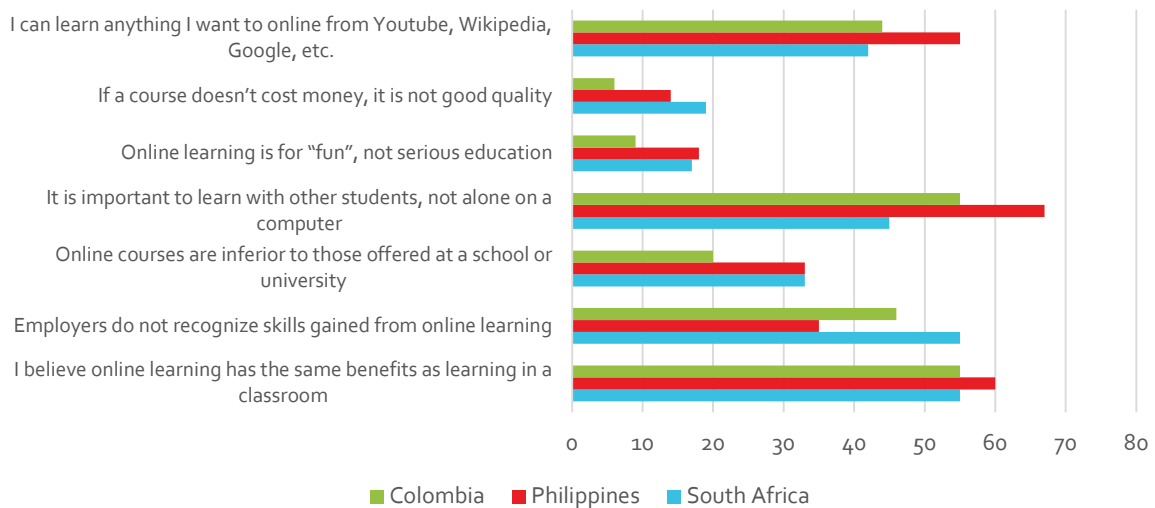
4.5 Non-users perceive online learning as valuable, but believe employers don't recognize it

This section considers the perceptions of online learning, and how these might influence decisions around MOOC participation, as well as people's awareness of MOOCs in general. In both the user and non-user surveys, respondents were asked to classify their level of agreement on a five-point scale from strongly agree to strongly disagree with seven statements around online learning, such as: "I believe online learning has the same benefits as learning in a classroom" and "it is important to learn with other students, not alone on a computer." For this analysis, the responses for each statement are combined into "strongly agree" plus "agree" and "strongly disagree" plus "disagree."

The findings are interesting for many reasons. For one, there is a strong perception that online education is a legitimate and appealing option, as demonstrated by high levels of agreement with the statements "I believe online learning has the same benefits as learning in a classroom," and "I can learn anything I want

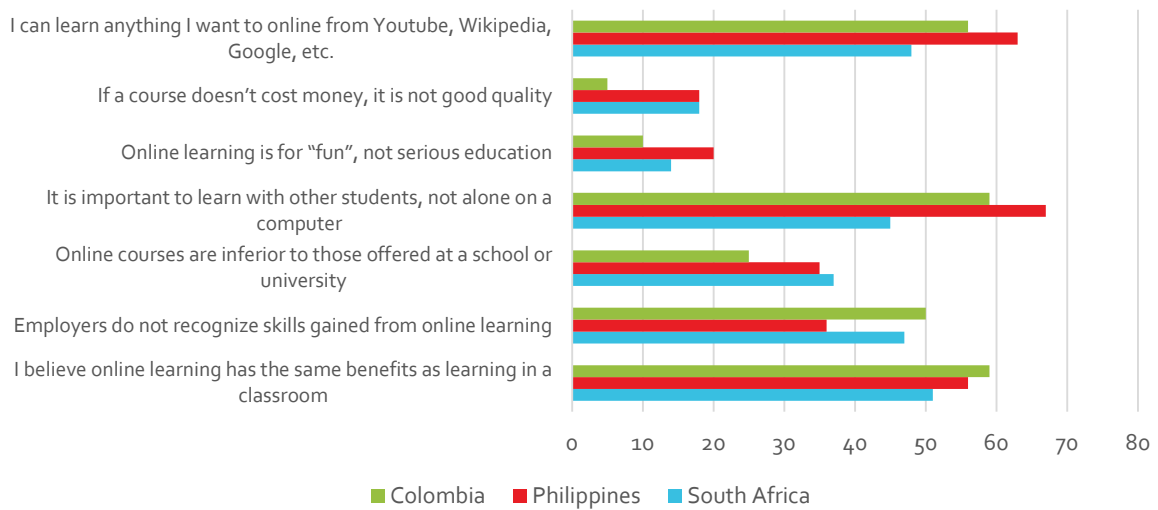
to online from YouTube, Wikipedia, Google, etc.” along with high levels of disagreement with “Online learning is for ‘fun,’ not serious education,” and “If a course doesn’t cost money, it is not good quality.” Responses to the statement “Online courses are inferior to those offered at a school or university” are mixed: among those aware of MOOCs, 29% agree with this statement and 27% disagree (34% agree and 27% disagree for those not aware). This suggests that, although there is a certain level of distrust with online courses, the majority of non-users are either neutral or have a positive perception about online courses compared with those at a school or university. See figure 24 for the complete distribution of perceptions of online learning for aware non-users.

Figure 26: Perceptions of online learning, non-users aware of MOOCs agree (%)



Another interesting finding concerns employability. Forty-three percent of MOOC aware and 41% of not aware groups agree that employers do not recognize skills gained from online learning, with 24% and 21% respectively disagreeing. This bolsters the finding above that large percentages of non-users would be motivated to take MOOCs if they were recognized by employers or educational institutions, while challenging the earlier finding that only 10% responded that recognition was a barrier. Finally, while 48% of non-users aware of MOOCs agree that they can learn anything they want to online from YouTube, Wikipedia, Google, etc., recall that only 6% of this same group cite this as a reason for not taking a MOOC. Thus, even if they agree they can learn material online through these other channels, that alone does not seem to be a factor for not taking a MOOC. See figure 25 for the complete distribution of perceptions of online learning for not aware non-users.

Figure 27: Perceptions of online learning, non-users not aware of MOOCs agree (%)



5 Understanding the MOOC landscape: the government perspective

This chapter investigates both government strategies and the commitment to developing and promoting MOOCs to reduce unemployment among youth in the Philippines, Colombia and South Africa. To better gauge progress on these respective fronts, AMDI's local partners conducted qualitative research through key informant interviews with government officials in both academic and non-academic institutions in each of the three countries. These interviews demonstrated that, while none of the countries involved in the study had an official strategy or comprehensive policy to employ MOOCs to mitigate unemployment or for professional development purposes, various agencies, universities, and colleges were deeply invested in designing and promoting MOOCs to meet local needs, expand lifelong learning opportunities, and enhance technical skills for young workers.

Key findings

- **At varying levels of government, there is general awareness of the potential of using MOOCs for workforce development purposes.** MOOC awareness undeniably exists among government institutions in the target countries of the AMDI study, but MOOC promotion and development is highly compartmentalized. This segmentation leads to atomization among various institutions and a lack of national strategy, which makes it difficult for governments to leverage MOOCs to increase employability or afford certified educational opportunities. As our MOOC user survey data indicates, however, young people are increasingly participating in government-sponsored platforms to refresh technical skills, improve job performance, and obtain professional certification for employability purposes.
- **Government respondents identified challenges to expanding MOOC usage in four major domains: social challenges, cultural challenges, economic challenges, and ICT access and infrastructure challenges.** All four areas present distinctive obstacles for MOOC promotion by government bodies. Policy makers frequently see the most prevalent challenge as access to infrastructure and connectivity, although survey data indicates awareness to be the major inhibiting factor.
- **Public needs are driving the emergence of new types of MOOCs.** Traditional MOOCs offered by academic institutions are increasingly being challenged by less-traditional MOOC purveyors focused on technical skills development. This is partially explained by the fact that these MOOCs are offered on demand, improve a specific technical skill, and afford government sanctioned certification. In each of the three countries targeted in the AMDI study, government sanctioned certification is required for a vast range of occupations and MOOCs offer an affordable, reliable, and transparent means of demonstrating the requisite skills necessary for employability.

5.1 Governmental awareness and perception of MOOCs as related to workforce outcomes

"I do not know and have not heard about Massive Open Online Courses yet. But if this could provide free access to education to the public that is of big help to people who would want to learn and enhance their capabilities. This may also help them find and get jobs. It would be better if the employer would recognize the certificates obtained from a MOOC." Key government informant interview, Philippines

To better understand government awareness and perception of MOOCs in each of the three countries in this study, AMDI partners conducted qualitative research through key informant interviews with various government agencies. These interviews explored a general awareness of MOOCs by government institutions (both academic and agency based), and sought to better understand how government awareness and perceptions drive or inhibit MOOC usage for workforce development aims. The interviews pointed to a mixed level awareness of MOOCs among various government institutions, suggesting the need for greater advertising and development of specific MOOCs directly pertaining to the skills employers are looking for. Clarity around the term "MOOC" would also be helpful, as government officials rightly often confuse MOOCs with other forms of online learning.

In South Africa, MOOCs are still not part of the mainstream education system; as a result, issues of accreditation and certification are generally still unclear. Likewise, there are no guarantees of industry acceptance or recognition of MOOCs completed for professional development purposes. One respondent in a key informant interview felt that there is a critical need for proper mechanisms to determine the quality of a MOOC offered by academic institutions, but once that quality was deemed sufficient, credit for MOOCs would be awarded no differently than if a student had taken the course in the classroom. This respondent felt that it should be clearly defined whether the MOOC has credit attached to it or if it is just for fun and/or general educational development. Another respondent in South Africa felt that for youth, MOOCs need to ascertain professional relevance. She felt that employed individuals should take up studies in order to stay up-to-date and advance their job skills as requirements and technology changes. This respondent felt that urban communities (especially agencies located in large urban settings) were more likely to develop and promote MOOCs than in rural settings, because of access to technology and cultural differences.

In the Philippines, MOOCs are generally viewed in a positive light by government agencies, especially in the educational and labor market sectors. Academic and training institutions frequently develop content that meets local needs, which explains why there are MOOCs pertaining to agriculture, business process outsourcing, and vocational skills for Filipinos working abroad. There is, however, a need for more dialogue between the educational sectors and the labor market to improve employability outcomes. Frequently in the Philippines, there is a significant problem of job mismatch, wherein graduates apply for positions they are simply not prepared for. According to Business Process Outsource companies, a leading growth industry in the country, there is an overwhelming need for improvement in speaking and writing English, as well as critical thinking skills. Knowledge in the use of technology also remains limited, although mobile devices and social media are increasingly ubiquitous among young Filipinos.

Outside the domains of technical and vocational skills development, formal tertiary education remains too expensive for many families. As a result, many young people drop out of school, creating a workforce lacking in the competencies most demanded by employers. There likewise remains a need for government agencies to review job requirements to ensure they remain current as the Philippine educational system transitions towards a new K-12 educational curriculum.

In terms of MOOC awareness, academics in state institutions demonstrate a general knowledge of MOOCs, yet representatives of provincial government departments have either never encountered them or fail to see a substantive difference between MOOCs and online tutorials or any other form of online learning. Tertiary education providers do offer courses and degrees online that may be taken for credit, including Master's Degrees offered by the University of the Philippines. However, outside academia, the potential use of online courses by government departments for workforce development goals and workforce certification suffers from a low level of awareness among the general public. Government officials acknowledge that MOOCs could help bridge the gap that currently exists between the often outdated knowledge gained in schools and the skills required for employability. This suggests that MOOCs could play an instrumental role in alleviating the significant skills shortage in the Philippines should the awareness of MOOCs increase.

In the Colombian context, there is little knowledge of MOOCs and what they might offer in terms of workforce development. Their potential is understood, although the government of Colombia has yet to adopt a national strategy to increase access to education or improve employment opportunities for young people. Select universities and institutions within the government, however, are introducing MOOCs into their agendas. There remains a general lack of awareness of MOOCs outside Colombian universities, but within the education systems there are select universities, such as the Universidad Tecnológico de Pereira, that offer online courses recognized by the Ministry of Education.

5.2 Challenges to governments in utilizing MOOCs for better employment outcomes

In all three countries, interviewees identified the creation and promotion of core trainings to meet the contemporary needs of the labor market and ensure the transfer of up-to-date skills as a key challenge. Similarly, the need to transform the perception of the quality of virtual education was deemed to be important. Finally, government officials cited access and internet connectivity issues as a barrier to reaching rural and marginalized urban sectors of the population. In terms of the end user, the competencies identified as most lacking by respondents were in the fields of ICT, resource management, and business administration. However, a lack of awareness of the courses already offered by state universities and local government agencies remains the major challenge for MOOCs in terms of education and employability. Likewise, the notion that MOOCs offered by government agencies add value to perspective employees is only now being considered. Many government officials interviewed seem to think that this was a new issue for the country, and that government institutions themselves do not yet have a clear view of the benefits of online learning.

Overall, the study identified four major challenges to government agencies and universities offering MOOCs to citizens for workforce development purposes. From a government point of view, these issues were social, economic, cultural, and limited access to ICT and technology.

Social challenges facing government institutions

"Online learning in South Africa and Africa is looked down upon because of the perception that a person undertook it because they did not qualify for university or college." Focus group participant, South Africa

A key social challenge identified by the study was the reluctance of many traditional educational institutions to embrace technology and ITC literacy skills into their curriculum. Even when purchased by government agencies, computer labs were often underutilized due to the poor computer literacy levels of teachers. For many teachers, school computer labs offered first-time exposure to technology in the classroom, and students were often more technologically savvy than their teachers. This had an impact on the power dynamics in the classroom, that challenged the traditional idea of the teacher as an authority figure. Similarly, a challenge in providing MOOCs will be in convincing departments and institutions at all levels of education that blended learning in schools does not pose a threat to educators who traditionally have relied on face-to-face learning. Hesitance about new technology, combined with fears of job insecurity and computer illiteracy has limited the adoption of MOOCs as a core component of traditional learning structures.

Change in the cultural mindset for different modes of teaching and the need for harmonization, integration, and convergence of government programs was widely discussed in the context of this report. Respondents identified two main areas where the promotion of MOOCs may experience challenges, especially with regard to the culture. First, there is a lack of access to and knowledge of online initiatives by a large percentage of the population, which fosters a level of distrust. Being a nascent and unfamiliar educational opportunity, MOOCs are viewed as a challenge to educators at traditional schools more familiar with paper and textbooks. Most government respondents added that there was still a need to retain face-to-face teaching and that a lot of emotional support is needed in the classrooms to encourage those students who are less self motivated. In South Africa, the culture still very much favors traditional systems. This experience is likewise found in more rural areas in the Philippines, although the level of distrust in the technology itself is less felt. Government institutions need to bridge that gap with more supplementary material from online courses that act as extended programs to enable students to start actively researching subjects on their own. Other respondents noted that language is a huge barrier when it comes to learning online. There have been widespread debates in both the Philippines and South Africa on whether at least some of the tertiary subjects should be taught in indigenous languages. Finally, one respondent suggested that it would be beneficial to instill the culture of MOOCs and online learning generally while students are in primary school, in order to start developing a culture of studying independently while still young.

Economic challenges facing government institutions

The affordability of tertiary education in all three countries remains an issue. Better compensation for those who develop local content and promote online learning systems was underscored. Economically, the challenge for government institutions is to deliver content that is relevant to the local employment market. MOOCs offered by foreign providers are often at an academic level that fails to address the key needs of local employers and employees. Government certification of online learning efforts was found to be more important in emerging economies, and the ability of a government body to sanction a specific MOOC means that, practically speaking, it must be created by a local government institution, such as an agency or college. One respondent in South Africa felt that the internet had a lot of material that is applicable to the overseas employment context, but not necessarily relevant domestically. In Colombia, one respondent said that a key advantage of MOOCs is the fact that online learning enables individuals to stay up-to-date with the latest trends in technology and market-based skills in their own country. MOOCs created by local government institutions naturally come at a cost, so it becomes important to inform policy makers outside the vocational and education sectors of the importance of affording online learning opportunities.

The challenge of affording ICT access by government institutions

On a technical level, the main challenge identified by government officials for MOOCs is infrastructure and resource limitations. Specifically, low internet speeds in Colombia and the Philippines, and cost of and general access to the internet in South Africa. One South African respondent indicated that the main challenge was providing sufficient network coverage (i.e. connectivity, broadband infrastructure, and ICT devices) to make MOOCs a practical learning channel for a majority of the population. If students want to undertake online courses, there is also the need for free Wi-Fi. The same respondent stated that South Africa has a very long way to go before its ICT connectivity becomes reasonable. He added that, while mobile devices are helping bridge the digital divide, an additional challenge is that internet data remains too expensive for the majority of citizens to purchase. Another respondent added that, even though he works in an IT department, the internet is bad and he is frequently unable to use it, while another respondent felt that the high price of internet may become a reasonable if the benefit of MOOCs becomes evident to people.

In the Philippines, lack of competition and the very geography of the country with over 7,000 islands has produced the slowest internet speed in South East Asia. Cost is not as much of a factor as in South Africa, but coverage is poor, even in the capital. In Colombia, mountainous areas are difficult to reach and computers are not widely used outside urban areas, although mobile devices are increasingly universal and have the ability to access data. At this time, however, many local MOOC providers do not have mobile-friendly platforms, which presents a challenge to those who do not have personal computers in the home.

5.3 Using MOOCs for workforce development purposes differ significantly depending on the type of institution affording MOOCs

Government efforts to reduce unemployment and offer education through the deployment of MOOCs is increasing in all three countries in the study, but the type of MOOC offered by many government agencies differs significantly from what academics are traditionally familiar with. At state universities, MOOCs are generally still offered over traditional academic pathways, with successfully completed courses resulting in certificated credit. At state agencies and the local government level, however, “mini MOOCs” focusing on very specific skillsets for employment purposes are becoming increasingly popular. This is compounded by the fact that, unlike the United States, many countries require certification for a vast array of professions and only government agencies can afford such accreditation. By offering MOOCs directly, with testing online, state agencies are able to ensure the appropriate level of skill necessary to engage in a given occupation, while, for users, the process of obtaining employment certification is streamlined, accessible, and more transparent.

Government agencies and MOOCs

In the Philippines, the Department of Education uses online learning platforms for better delivery of education to students, whereas TESDA (a state government agency for Technical Education and Skills Development) has initiated a MOOC program for all Filipinos, including low-skilled overseas Filipino workers. TESDA’s online course catalogue for increasing skills related to professional development opportunities abroad caters to a large and diversified labor pool. In Colombia, organizations such as SENA (the National Service of Learning) and regional institutions like Antioquia Digital also offer courses

strictly for professional development purposes. These MOOCs promote lifelong learning and training opportunities to assist workers to remain up-to-date on changes in their respective occupations. Current global dynamics make it almost mandatory that one possess basic digital literacy for any office job, and MOOCs produced and disseminated by state agencies have the opportunity to make the workforce more competitive and professional. Practical MOOC workshops offered by ministries of labor and industry can help bridge this gap.

Government agencies working in collaboration with universities

"I heard about MOOCs, but we do not employ Massive Open Online Courses to our students because we have developed our own modules, which are accepted by CHED (The Department of Higher Education)." Key informant interview, Philippines

State universities are increasingly vested in online learning, specifically by affording MOOCs with content relevant to local needs. For example, in the Philippines, West Visayas State University (WVSU) implements a modular program in partnership with SEAMEO (the Regional Centre for Educational Innovation and Technology) to convert programs into online modules with the College of Education. The first two programs converted were the Diploma in Teaching and Masters in School Management. The College of Education offers online learning with exams and the college has 50-60 new e-students every semester. The size of online courses is increasing, and now there is a need for more tutors. State universities in the Philippines are also offering blended MOOCs. The University of the Philippines, for example, offers MOOCs in partnership with businesses to prevent job mismatching in the Business Process Outsourcing industry (BPO), and specifically for telecom providers. Within the BPO industry, there is a need for specific improvements in speaking and writing in English, as well as critical thinking and customer services oriented skills. The MOOCs at the University of the Philippines addressing these issues were created in partnership with the private sector to ensure the skills offered by the university matched the needs of hiring agencies.

In South Africa, there are various initiatives addressing skills shortages and youth employability within different departments and institutions. These initiatives range from supplying hardware and software to help students and employees enhance their skills, using curriculum reviews to ensure courses stay relevant to industry skill requirements, and more formal programs and policies laid out in South Africa's ambitious White Paper on E-Education,¹⁴ released in 2004. This White Paper provides a framework for ICT implementation at all levels of education. To date, however, implementation is not effective despite formal commitments by the government; the set target of achieving e-readiness for all schools by 2013 was far from being achieved. Respondents in South Africa remained divided in their opinions as to whether or not it would be valuable for government agencies to include MOOCs in policies and programs. Some respondents believed that MOOCs are good enough to stand alone as a means of improving skills and job performance, while other respondents believe there is little place for MOOCs in government policies and programs. Unlike respondents in the Philippines and Colombia, research in South Africa demonstrated that government officials believed that the value of MOOCs was more apparent in university-based education rather than vocational training.

¹⁴ <http://www.gov.za/documents/white-paper-e-education>

6 Understanding the MOOC landscape: the employer perspective

To better understand demand for MOOCs in each of the three countries of this study, AMDI's local partners conducted qualitative research through key informant interviews with employers from various industries. The research aimed to place particular emphasis on the key growth industries in each of the countries. These interviews explored the informants' general awareness of MOOCs and sought to better understand how employer awareness and perceptions of MOOCs might drive or inhibit MOOC usage for workforce development purposes. The interviews pointed to a mixed level awareness of MOOCs among all of the employers, underscoring a need for greater advertising of specific MOOCs that might be related to the skills employers are looking for, as well as more clarity around the term "MOOC" and what benefits a MOOC might bring compared to other forms of online learning.

Key findings

- **Employer perceptions of MOOCs are generally positive in an abstract sense.** However, when asked specifically about MOOCs as tools for advancing or starting careers, employers outlined many barriers. Employers feel that the blended learning or in-person education still holds more benefits, as there is more opportunity to practice practical skills in these contexts.
- **Having taken a MOOC course(s) makes no difference in hiring decisions.** A completed MOOCs course will only have a positive effect on a potential job function if it is relevant to the work that needs to be done and the applicant is actually able to apply what they learned.
- **Certification is understood as an important component of MOOCs because it is the only way to verify what kind of progress was made, who endorses it, and whether or not the learning goals set forth were achieved.** Generally, it was found that certification was of great importance to those who took MOOCs in the countries studied. The need for documentation and the ability to have completed coursework certified led to higher MOOC completion rates.
- **The main barrier to accepting a candidate with only a MOOC/MOOCs certificate(s) is mistrust in the quality** standard of the skills training. In addition to being a new educational concept, MOOC qualifications remain difficult to verify and authenticate.

6.1 Employer awareness of MOOCs and their potential

I will hire [employees] who have credentials... or [MOOC] certifications where I can see the skills. If you don't have the certifications yet commendable skills, I might hire you, but you will be in training once you get in.
Key Informant Interview, Philippines

In Colombia and the Philippines, employers generally had mixed awareness of MOOCs. In the Philippines, where many of the businesses include business process outsourcing (BPO), awareness was split between businesses with internet dependent models, which generally had a higher rate of awareness of MOOCs, and businesses with limited online transactions, which were somewhat aware of online learning environments, but not MOOCs specifically. In South Africa, awareness among the employers interviewed was much higher. Five of the seven employers interviewed were aware of MOOCs and even had personal experience taking MOOCs themselves. Across the three countries, all interviewees had an understanding of online learning even if they were not familiar with MOOCs.

In the Philippines, the BPO sector is generally aware of MOOCs. Each local outsourcing company has its own Learning Management System (LMS) that includes portal books, learning maps for job roles, and performance scorecards. BPO companies use their own online courses extensively to train their employees. There are usually in-house development opportunities, career counseling, performance reviews, and development plans for BPO employees. However, human resources departments may recommend that applicants take courses on UPOU, ENAC, EDNK, Learnist, Coursera, MOOCs4U, or other learning platforms for preparation of employment entry or enhancement of knowledge and skills for a more competitive advantage over other candidates.

Big corporations likewise demonstrate an awareness of MOOCs and may use MOOCs themselves, but essentially, employers mostly rely on diplomas earned from the traditional mode of learning when hiring employees – be they large-, micro-, small-, or medium-scale enterprises. Certifications gained online may or may not be considered in the hiring process, depending on their relevance to the position posted. Employers are also aware that certificates may be forged, which makes them extra wary of certificates from online courses.

6.2 Employer perceptions on MOOCs as pertaining to workforce development

"MOOCs improve employment opportunities since certifications matter and MOOCs can be used to get these certifications. It will also provide those that want to teach a different venue to do so with a flexible schedule and number of students. There are many young professionals that are teaching online and earn a lot." Focus group participant, Philippines

Employer perceptions of MOOCs are generally positive in an abstract sense. However, when asked specifically about MOOCs as tools for advancing or starting careers, employers outlined many barriers. Employers feel that blended learning or in-person education still hold more benefits, as there is more opportunity to practice practical skills in these contexts. Employers in both South Africa and Colombia

remarked that their respective populations regard in-person learning at reputable institutions as important. While completion of an online course backed by a prestigious institution is a valuable qualification, employers feel that they don't have enough information to judge how MOOCs might affect employment.

Employers were also asked about the role MOOCs might play in *hiring* candidates. Across the three countries, the consensus is that MOOC completion indicates something about the candidate's tenacity and self-discipline rather than the qualifications they may have gained from the course. With regard to the initial hiring decisions, the main barriers to MOOCs as a qualifying principle is the lack of familiarity with MOOCs and the lack of accreditation, without a formal qualification such as a university degree. It is not the quality of the courses that is in question, but rather the current level of recognition and lack of trust in the quality assurance in these courses. All the respondents had an appreciation for people who took the time to enroll in MOOCs. The fact that the effort comes from the applicants shows great value, as people trying to educate themselves to stay current in their respective fields says something about their desire to do their jobs well. It is perceived that people who take MOOCs are self-motivated candidates, who are likely improve themselves and stay abreast of developments and challenges that face their sectors. Some Colombian employers agreed that MOOCs could tip the scales between two otherwise equal candidates in favor of a candidate who had participated in a MOOC or received a certification from a MOOC. However, the MOOC is still not seen as qualification by itself. In contrast, one respondent from the Philippines stated that, given the choice between two candidates who had taken the same course, one online and one in-person, she would prefer to hire the candidate who had taken the course in-person. This attitude suggests the continued weight that in-person education has in terms of qualifications for employment.

There were respondents who believed innovations such as MOOCs are critical in their country, as higher education is expensive and not everyone has the opportunity to enroll in higher education. This further supports the finding that the main barrier to MOOCs for employers is knowledge of these courses and their value. Helping employers realize the potential of these courses could help change their minds about MOOCs as a qualifying factor in hiring decisions.

In the Philippines, employees are generally hired based on their college degree obtained from traditional higher educational institutions. However, local employers do not discourage applicants or employees from taking MOOCs for further education and acknowledge that taking courses from an open university entails self-discipline, although they express reservation on how in-depth the learning will be. The mode of instruction for online education is also called into question since there is a belief that although the course and the materials are good, the success of an online course will depend on who conducts it. If the instructor is knowledgeable, then the quality and manner of instruction is better, facilitating better understanding for the students. In BPOs, human resource managers encourage applicants to take MOOCs to improve their existing skills before they are hired. Once they are employed by the BPOs, the employees are trained on the in-house learning management systems. However, the employers feel that MOOCs must be part of the Philippine education accreditation system. The online course providers must ensure that the users are genuinely certified after taking these courses.

As a rule, the survey found that having taken a MOOC course made only a slight difference in hiring decisions. A completed MOOCs course generally did have a positive effect on a potential job function if it was relevant to the work that needed to be done, and if the applicant was able to actually apply what they learned. However, individuals who took MOOCs were viewed as individuals willing to take initiative and invest in themselves. Companies interviewed perceived this as a positive development, as it demonstrated commitment and concern for improved performance beyond the specific subject they studied.

However, if the impression was that the applicant took the MOOC just to pad their resume, it would not be helpful in hiring. If forced to choose between someone who completed a course online and one who completed it face-to-face, an edge would be given to the person who physically attended classes since the relational/social/interactional factor would be considered. The types of courses taken online can matter though. Taking an online course in welding, which requires physical application is different from taking an online management course. It also helps if the institution providing the online course was highly rated. In BPOs, completing a MOOC will have a positive effect in hiring, but not for promotions since employees need to follow their LMS once they are hired. In teaching English as second language online, there is value in having certifications or passing exams (TESOL, TOEFL, TOEIC, IELTS) since the certifications and exams require completing specialized lessons.

6.3 Lack of trust in MOOC quality & certification affects employers' perception of MOOC potential in hiring

Certification is understood as an important component of MOOCs because it is the only way to verify what kind of progress was made, who endorsed it, and whether or not the learning goals set forth were achieved. In the Philippines, where English proficiency is a sought-after skill, MOOC certification in internationally-recognized skills (such as TESOL) is seen as very important. In this sense, the certificate is the minimum step of checking that minimum training requirements were met. Non-formal qualifications or certifications are assumed by companies as a sign of interest and for continuing education. Some spoke to the reputation of the university, as it is also a guarantee that a methodology was applied and quality content was developed. However, the company seeks to know whether or not the employee has the skills indicated in their certificates. All agree that MOOC certification is important and must be genuine and from reputable organizations or universities. At the same time, some employers voiced concerns that a certification would still not be valued as highly as certification from an in-person course due to the many providers of MOOCs and the lack of standards for quality across platforms and courses. In the Philippines, employers would demand that they be able to verify the course the applicant took and the certification given with the institution that offered the online course. However, in the case of the BPOs, even if employees have proven that they have completed an online course with an educational institution, having certification does not carry more weight than the company's own LMS and performance rating.

The main barrier to accepting a candidate with only a MOOC certificate is mistrust in the quality standard of the skills training. MOOC qualifications are hard to verify and authenticate. South African employers noted that this finding is influenced largely by the lack of awareness and knowledge of MOOCs in South African workplaces. In addition, MOOC content may not provide the skills needed, depending on the sector of industry. In Colombia, MOOCs are still seen as an informal qualification, even if it results in certification. Most employers would not accept MOOCs as formal credentials for hiring.

Additionally, the cultural paradigm in the three countries dictates that in-person education at reputable institutions is the norm. In South Africa, the only alternative to this that was recognized was distance education from the University of South Africa (UNISA). In South Africa, employers also noted that location played a key role as some provinces are "more progressive in terms of studying and online presence compared to others." Employers, too, pointed to connectivity and cost of connection as a problem.

In addition to challenges related to ICT infrastructure and cultural norms, employers, especially in South Africa, noted that there is little awareness of MOOCs among the general population. There is also a lack of career guidance programs that can properly help young people navigate MOOCs. These programs could play an important role both as channels for raising awareness about these learning spaces and to increase the likelihood of young people achieving their education and career goals while taking MOOCs.

While there are many barriers to adapting MOOCs as a tool for workforce development, the research did uncover some opportunities for employers to use them to improve training and employability. Many industries are adopting online learning platforms for their own professional development systems, and the inclusion of specific MOOCs offered by well-regarded institutions that provide employer-approved certification would serve to help prospective employees find positions. This is already occurring in some industries. For example, in Colombia, some companies have non-formal partnerships with prestigious universities in the training of professionals with specific profiles. One employer noted that some companies have an alliance with Colombia's corporate universities, as in the case of the Elite University and Ecopetrol University. These alliances were created with the specific aim of promoting further and continuous training for employees. An employer from the Philippines noted the same, saying, "*Some BPO companies have university tie-ups integrated with their learning management systems (LMS). Company such as Teletech tied up partnerships with Stanford, Ivy League schools to acquire online courses or take MBA online...*" If companies using these university partnerships were to recommend specific MOOCs similar to the courses offered in private LMS to potential applicants, this might drive demand for these MOOCs among prospective employees and students who are hoping to enter the BPO industry.

In South Africa, employers highlighted using MOOCs at the high school level. The high rate of failure in matriculation leads to a lack of people going into tertiary education. Many informants believed that MOOCs should be introduced to youth while they are in school so that they supplement their education at an early stage and to help them learn how to study independently. A respondent noted that this would help highlight students to companies who sponsor tertiary education, especially in disadvantaged communities. As in the other countries, there were respondents in South Africa who believed innovations such as MOOCs are critical, as higher education is expensive and not everyone has the opportunity to enroll in colleges and universities. For MOOCs to be taken as a substitute for more traditional forms of learning, however, a trustworthy system of certification that the business community can rely upon must be developed.

7 Key takeaways & recommendations

This study has revealed a number of important insights that bode well for the future of MOOCs for workforce development in developing countries. This in itself is a significant finding as the researchers expected to encounter many more obstacles to advancing MOOC uptake. Many of the study's findings contradict commonly-held assumptions about MOOCs in less developed contexts. The following seven takeaways and associated recommendations warrant particular attention.

1.) MOOC users across the three countries overwhelmingly complete MOOCs and obtain certification in MOOC courses.

When it comes to completion and certification, users in these developing countries are far ahead of their developed world peers: almost half (49%) of MOOC users surveyed receive certification for at least one course. The rate is even higher — 70% — when limited to users that are currently employed. Nearly 80% of all MOOC users said they had completed at least one course. While the rate of completing at least one MOOC in the U.S. and Europe is not known, individual course completion rates in those regions are estimated between just 5% and 10%. Only 19% of users surveyed reported having only browsed through some of the material for a course but did not complete it.

The high rate of completion and certification across MOOC users in the sample is unprecedented. Even though it is not possible to fully discern from the survey data the reasons why so many young people complete and get certified, there is a common element across the three countries. The vast majority of MOOC users in Colombia, Philippines, and to a lesser extent, South Africa, were sampled from government educational bodies tasked with advancing education and workforce development purposes [in Colombia, the National Service for Learning (SENA); in the Philippines, the Technical, Education, and Skills Development Authority (TESDA); and in South Africa, the distance learning program offered by the University of South Africa (UniSA)]. These institutions are highly regarded for academic achievement in their respective countries and carry a solid reputation among employers and society at large.

- **Recommendation: Countries should look to their own education ministries, or as in the case of the Philippines and Colombia, special education authorities that have been established to promote specific agendas.** These bodies can play an extremely important role and link between MOOC providers, employers, and users, lending credibility and a channel to reach large numbers of potential users.

2.) The socio-economic profile of MOOC users and non-users reflect the populations typically targeted for youth workforce development strategies and poverty alleviation.

In the three countries studied, MOOC users and non-users come from diverse income and educational backgrounds. They fall predominantly in low- and medium-income categories (80% of users and 92% of non-users), and they have varying degrees of educational attainment. They are not an exclusively elite, highly educated population that would discourage a government from taking steps to integrate MOOCs into workforce development and educational initiatives. Yet, as the interviews with government officials in the three countries revealed, government programs that currently include MOOCs as part of their strategy are still highly compartmentalized across different institutions. This segmentation leads to a

lack of a coherent national strategy to leverage MOOCs to promote employability, and also for addressing broader social goals such as poverty alleviation and more equal access to educational opportunities for youth.

As the analysis revealed, both MOOC users and non-users have generally positive perceptions about online learning overall, alleviating some of the perceived need to convince people that this is a legitimate form of education. Across educational and income levels, young people surveyed for the study believe that online courses are not inferior to face-to-face education. Although social learning is favored, for these young people online learning offers similar benefits as learning in a classroom. Additionally, results from the study highlight the interest of young people to take advantage of these learning environments to improve their employment opportunities by gaining skills through MOOCs. The implications of these results merit even higher consideration for policy development by taking into account that low income youth and those with only a high school education rate the benefits of skills gained through MOOCs to improve their employment opportunities more highly than those with higher income and higher education levels.

- **Recommendation: Governments should integrate MOOCs into already existing training programs and coordinate programs across agencies.** Raising awareness of and coordinating efforts among different government institutions could lead to increased uptake of MOOCs, leveraging an already brewing interest among young people in online learning. Government agencies working in areas of workforce development, education, and general strategies for poverty reduction should integrate MOOCs into already existing training programs. More coordination among government institutions, training providers, and employers could maximize the use of these online learning platforms, particularly if the MOOCs offered are aligned with the skills needed in the labor market. While the enthusiasm around MOOCs is warranted, this clearly can not be an isolated strategy. Increasing access to educational opportunities through MOOCs must be complemented with other programs that promote wider access not only to training opportunities, but also, and just as importantly, to assisting young people in developing connections with potential employers and guiding them through job search and application processes.

3.) MOOCs represent a viable channel to expand training opportunities for women to gain skills and improve their competitiveness in the labor market, especially in jobs and industries where women are underrepresented.

Gender strategies and programs have long acknowledged that training is one of the most important means to achieve greater equality for women in education and employment. The more skilled the female workforce becomes, the greater and more diverse the opportunities women have in the labor market. MOOCs can offer a viable channel to increase training offerings for women, particularly in jobs and industries where there is a greater gender gap. The study revealed that female MOOC users are already taking advantage of these online learning platforms to gain skills for employment, and they are achieving completion and certification of the courses at a higher rate than male MOOC users. Over a third of these women have taken MOOCs in computer science and business, management, and leadership, areas where women tend to be underrepresented. Furthermore, across the three countries, but particularly in South Africa, a significant proportion of women MOOC users come from low-income backgrounds, highlighting once again that income level is not an impediment for them to gain skills through these learning platforms. Lack of awareness of MOOCs, however, presents one of the biggest obstacles for women to participate in this form of online learning. Women represent the majority of non-users sampled in the study who are not aware of MOOCs. This is a missed opportunity to provide a viable training resource for women.

- **Recommendation: Government agencies should partner with educational institutions, libraries, and social organizations and implement MOOC awareness strategies that begin in primary and secondary education settings.** Educational institutions, libraries, and social organizations can play a pivotal role in increasing awareness among women of the potential of MOOCs as training options and as a resource to potentially increase access to quality employment. Awareness strategies that are based on a life-cycle approach can further extend the benefits of these learning platforms not only for young women of working age, but also for those still in school who can engage in MOOCs at an earlier age, expanding their educational horizons and professional aspirations. Awareness efforts must encompass the different realities and needs of women in different contexts since they face additional social and cultural obstacles in terms of equal access to education and employment. Nevertheless, the integration of MOOCs into gender-centric workforce development strategies can increase the choices women have to gain skills for employment in nontraditional occupations, combating stereotypes in the labor market while offering women better access to quality jobs. Providing additional access to training through MOOCs is just one component of this type of strategies, but it is an important resource that must be offered. This is particularly true if these training offerings are strategically designed to prepare young women for fields that are currently dominated by men, as is the case in software and app development and programming.

4.) There is a lack of awareness about MOOCs and their benefits for workforce development among the overall youth population, government agencies, and employers, which is a major barrier to maximizing the potential of MOOCs in workforce development.

In all three countries, it was difficult to find people who were aware of MOOCs, not only among the youth population targeted for the study but also among government agencies and employers. Seventy-nine percent of all non-users surveyed had never heard of MOOCs. The varying awareness levels of MOOCs among different stakeholders were often accompanied by different understandings of what these platforms are, how they differ from other forms of online learning, and the value of gaining skills through MOOCs for employability outcomes. There is even a generalized perception among government institutions and employers in these three countries that MOOCs primarily benefit young people who are already highly educated and enjoy higher incomes, not those that need it the most. The findings from this study challenge these commonly-held assumptions, and they can be used as the basis to inform a multi-layered awareness strategy for all of the relevant stakeholders.

- **Recommendation: MOOC providers should increase their presence in social media to raise awareness among youth about these learning platforms and their potential use for advancing employability goals.** There is an opportunity to use social media channels to promote and raise awareness about the benefits of MOOCs. In all three countries, MOOC users and non-users are predominantly young and heavy users of social media. Yet, social media is one of the least important channels through which young people currently learn about MOOCs. Educational institutions, family and friends, and online search in the case of Colombia, are the three most popular channels through which people first learn about MOOCs. Adding social media to this pool can greatly extend awareness of these learning platforms in spaces already used by young people. There is a general perception among governments and employers that MOOC providers, either for-profit or not-for-profit, do not have well-developed advertising campaigns that target spaces where youth are active, in particular social media.

- **Recommendation: MOOC providers should devote efforts to partnering with intermediary institutions such as schools, public libraries, and other social organizations that work with young people.** These institutions and the information professionals that work there are natural options for teaching young people about these learning platforms and directing them into the appropriate MOOCs that can potentially enhance their skills and help build new skills.

5.) Employers have generally positive perceptions about MOOCs for advancing or starting careers, but an applicant listing a MOOC course on his/her CV doesn't make a difference in their hiring decisions.

Employers across the three countries recognize the value of MOOCs for building up skills of young people starting and advancing their careers. They particularly appreciate the self-discipline and tenacity young people demonstrate when engaging in these learning platforms to improve their skills by completing a MOOC. However, for hiring or promotion decisions, a completed course will only reflect positively in a given job function if it is relevant to the work at hand and the applicant or employee are successful in applying the skills learned to their everyday job. In a nutshell, employers value the end results in job performance more so than the means through which people learn the skills to perform it. From the employers' perspective, MOOC certification is critical because it is the only means to verify the actual skills gained and the quality standard of the training if the qualifications are authenticated by a trusted institution.

- **Recommendation: Government workforce development agencies and MOOC providers should work together with employers to jointly identify the skillsets needed for various industry sectors and job categories.** . MOOC providers can then develop MOOCs curricula that address these skills and teach them in effective ways. In addition, workforce development agencies working in partnership with educational accreditation institutions can develop testing criteria and systems for young people engaging in these learning environments to more accurately demonstrate the skills gained through MOOCs.

6.) Slow internet speeds and quality of access to technology are obstacles for youth when engaging with MOOCs, which even when free, can incur data and time costs.

Even though 90% of the MOOC users and 84% of the non-users sampled for the study have home internet access, the majority reported low internet speed and limited access to the internet and computers as two of the major obstacles they face when engaging (or not engaging) with MOOCs. This finding is important for MOOC providers interested in designing courses that are tailored to environments with limited bandwidth. Most MOOCs are bandwidth intensive. Videos and large files make it a potentially expensive and time-consuming decision to participate in MOOCs. Contrary to commonly-held perceptions among several of the government representatives interviewed, lack of ICT skills is not an impediment for MOOC uptake. It is the quality of access that prevents many young people from engaging in these learning platforms.

- **Recommendation: Government agencies and MOOC providers should consider partnering with local organizations that provide internet and technology access and a physical space for learning.** Increasing quality digital and physical access to promote MOOC uptake and improve user experiences can be achieved by partnering with educational institutions, libraries, and social organizations. These organizations provide quality internet access and physical places for young people to experience MOOCs through social learning with others.

- **Recommendation: MOOC providers should explore providing less bandwidth-intensive course materials and increase the offering of courses designed to work on mobile devices.** MOOC providers can make design improvements so that people in low and/or costly bandwidth environments can more easily access and engage with MOOCs. Some options for this could be offering offline viewing, providing bandwidth meters, including options for low resolution video, and designing course materials for smaller screens.

7.) Certification is important, but it is a nuanced picture. Most young people in these countries use MOOCs as a means to prepare for professional certification. It is a means to an end.

Course completion and certification are the gold standards to assess success in terms of MOOCs engagement. This picture, although accurate, describes only part of MOOC user behavior around motivation and learning goals. MOOC engagement must be studied and understood as a means to an end. Many of the users that participated in the study engaged in MOOCs as a way to prepare for professional certification. The fact that MOOC certification is perhaps not as important doesn't mean that these environments are not being used for educational and employability purposes. MOOCs are being used to prepare for a certification that is recognized among employers. This is particularly true in Colombia where most of the users seem to engage in MOOCs to prepare for professional certification. The research clearly demonstrates that certification is important. In fact, across all three countries nearly half of all MOOC users obtained a certificate, an astounding percentage compared to data available in the U.S. and elsewhere. However, what seems to be most important for these people is using MOOCs as a means to an end, where the end is a professionally recognized certificate from institutions employers trust. The governments themselves are major actors in the certification space, thus locally relevant institutions are more important than big name universities from abroad in these contexts.

- **Recommendation: Government agencies should provide guidelines and recommendations for employment pathways and courses to gain certification.** More so than in the U.S. and other similar environments, governments in many countries have a much larger role in education policy, and MOOCs are no different. As mentioned above, governments have an important role to play in providing sanctioned employability pathways and certifications. More generally, governments can be more effective if they previously identify a set of MOOC courses young people can take to prepare for professional certification, specialization or that can lead to a degree.

Final thoughts

This study, one of the very few empirical explorations into MOOCs in developing countries, has uncovered a number of important findings. These findings challenge what has been learned in more developed contexts, sometimes profoundly so, such as the finding about MOOC completion and certification rates. These findings raise a number of questions that further research could answer to provide policymakers and practitioners with additional information and actionable insights.

Questions for future research:

- ***What are the MOOC usage patterns in other countries?*** This research only covered three countries, exhibiting both commonalities and differences. Data from other countries with variance across socio-economic levels, online learning environments, languages, and other characteristics would yield a more complete picture of MOOCs in a more representative range of less-developed country settings.

- ***What are the particular decision-making mechanisms and other factors that motivate users to engage with MOOCs?*** The quantitative data from the surveys was a useful first step to obtain a broad understanding of MOOC user behavior, but its utility is limited until a deeper understanding can be developed around their motivations and experiences with MOOCs. This can be achieved through a qualitative study.
- ***What accounts for the high levels of MOOC completion and certification rates?*** The study found, for instance, that browsers showed similar motivations as completers and certified users, based on the available choices on the survey. This suggests there could be other reasons and these would be valuable to uncover in order for policymakers and providers to have information that would allow them to develop effective strategies.
- ***What factors can explain the low participation of unemployed young people in MOOCs?*** The vast majority of the MOOC users in the study at the time of the survey were employed or still in school, with only 4% of the total sample reported being unemployed. Although these survey results can be biased as a result of the sampling strategy they merit further exploration. Being officially unemployed does not mean young people are free to participate in training to build their skillset at will. Many likely engage in the informal economy to help themselves and their families make ends meet. However, uncovering the additional challenges unemployed youth face to engage in training programs can help government agencies to devise strategies more encompassing of their reality.
- ***How are women using MOOCs in developing countries and what strategies could maximize these learning platforms to improve their employment opportunities?*** The research found that women are using MOOCs, especially for subjects that tend to be more male dominated, and complete and get certification at higher rates than males. However, awareness and overall usage is low. Further research would uncover more detailed data on how women use MOOCs, barriers to uptake, and specific strategies that could improve learning and employment outcomes.
- ***How can MOOCs advance the development of ICT and domain specific skills?*** The research showed that people of all ICT skill levels partake in MOOCs, obviating any concern that ICT skills formed a barrier to participation. At the same time, computer science classes were the most popular subjects of the respondents. Given that many countries also have digital development agendas closely tied to overall workforce development strategies, it would be useful to investigate how MOOCs could be further leveraged to promote the development of ICT and domain specific skills.

In closing, the authors believe this study has made a significant contribution to understanding MOOC usage in less-developed country contexts that both provides stakeholders in workforce development and education with insights and offers a foundation on which future research can be built. The potential for increasing MOOC uptake and improving employment opportunities, especially for more marginalized populations, is clearly there. This is promising, and urges action since the data shows that MOOC users are savvy in using the knowledge they've gained from MOOCs to advance their professional aspirations.

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Appendix 1: MOOC user survey*

[*Some questions for this survey were adapted from the study by Christensen et. al. (2013)]

We are conducting a study to understand **how young people in different parts of the world** participate in massive open online courses (MOOCs). MOOCs are online courses that bring together people from diverse backgrounds interested in a particular topic and they are open to anyone with no prerequisites. Courses are usually free, and they can support an unlimited numbers of participants. MOOCs are offered in many ways through providers such as Coursera, edX, Udacity, MiriadX, UP Online Program, TESDA, etc. that work in partnership with universities and other institutions.

If you are between the ages of 18-35, please fill out this survey. Your participation is very important to help us understand how skills gained through open online courses affect employment and career aspirations. Make your voice heard!

The survey will take approximately 10 minutes, and it is available in English and Spanish. Your participation is voluntary and all your responses are anonymous.

If you have any questions about this survey and the study please contact: Professor Maria Garrido migarrid@uw.edu of the Technology & Social Change Group (TASCHA) of University of Washington's Information School

FILTER QUESTION: Have you ever registered for a MOOC?

- Yes [[GO TO MOOC USERS](#)]
- No [[GO TO MOOC POTENTIAL USERS SURVEY](#)]

Country where you were born: [LIST ALL COUNTRIES]

Country where you live (if different): [LIST ALL COUNTRIES]

Province: [[QUESTION ONLY FOR SOUTH AFRICA, PHILIPPINES, AND COLOMBIA. LIST OF PROVINCES FOR EACH COUNTRY IN APPENDIX 1](#)]

City/Town/Village where you live: [[Write-in](#)]

1. Your Demographic Information

Gender: Female Male Other

Your age: [Select one]

- Under 18 [[MESSAGE WE ARE SORRY BUT YOU DON'T QUALIFY TO PARTICIPATE IN THE STUDY](#)]
- 18 - 20

- 21 - 23
- 24 - 26
- 27 - 29
- 30 - 32
- 33 - 35
- Over 35

[EDUCATION, EMPLOYMENT AND INCOME QUESTIONS FOR SOUTH AFRICA, COLOMBIA AND THE PHILIPPINES IN APPENDIX 2. FOR THE REST QUESTIONS BELOW]

What is the highest level of education that you have completed? [Select one]

- Preschool and kindergarten
- Primary School
- Secondary school
- High School
- Vocational School
- College
- Graduate School

Which of the following best describes your employment status? [Select one]

- Employed part time
- Employed full time
- Self-employed
- Unemployed
- Student not working
- Student working
- Retired
- Other

2. Your use of Internet

2.1 Do you have access to the Internet at home? (By any device) [Select one]

- Yes
- No
- Don't know/Refuse

2.2 What is the main device you use for accessing the Internet? [Select one]

- Desktop computer
- Portable computer (laptop, netbook, tablet)
- Mobile phone or smart phone
- TV connected to the Internet (Smart TV)
- Game console
- Other, please specify [\[WRITE IN\]](#)

2.3 Where do you access the Internet most frequently? [Select one]

- Home
- Work
- School/University
- Friend's/relative's house
- Cybercafe/Internet café
- Telecenter
- Free wifi zones
- Public library
- Other, please specify [\[WRITE IN\]](#)

2.4 Which of the following are you able to do using the Internet? (Please, select all that apply)

- Use a search engine to find information (e.g. Google)
- Send e-mails and attached files (e.g. documents, pictures, etc.)
- Post messages to chat rooms, newsgroups or an online discussion forum (e.g. on social networking sites, blogs, etc.)
- Use the Internet to make telephone calls
- Use social media sites (e.g. Facebook, Twitter, Instagram, Flickr, etc.)
- Upload self-created content (text, photos, music, videos, software etc.) to any website to be shared
- Create a web page
- Use services related to travel or travel related accommodation
- Search and shop for goods and services online
- Use Internet Banking
- Use e-government services
- Other

3. Your experience taking open online courses (MOOCs)

3.1 How many open online courses have you registered for in TOTAL? [Select one]

- 1
- 2
- 3
- 4
- 5 or more

3.2 Of the open online courses you registered, for how many did you access and/or consult some of the material but DID NOT complete the course? [Select one]

- None, I completed the course(s) I registered for [[GO TO 3.5](#)]
- 1
- 2
- 3
- 4
- 5 or more

3.3 Of the open online courses you have registered for, how many have you completed? [Select one]

- None [[GO TO 3.5](#)]
- 1
- 2
- 3
- 4
- 5 or more

3.4 Of those open online courses you completed, for how many did you earn a certificate? [Select one]

- None
- 1
- 2
- 3
- 4
- 5 or more

3.5 In which of the following areas/subjects have you taken open online courses? [Select all that apply]

- Computer Sciences – such as, Programming, Software Engineering, Data and Informatics
- Finance – such as, Investment, Financial Modeling, Budgeting, Accounting.
- Mathematics – such as, Calculus, Statistics
- Business and Management (including entrepreneurship, business processing services, etc.)
- Fine arts and design – such as Music, Theater, Film, Photography, Architecture
- Engineering
- Law – such as, Contracts, Criminal Law, Constitutional Law
- Physical and Biological Sciences – such as, Physics, Biology, Chemistry, Anatomy, Geology
- Social Sciences – such as Education, Economics, Psychology, Political Science, Public Policy
- Medicine and Health – such as Anatomy, Nutrition, Neurology, Disease Prevention

- Language
- Vocational training
- Humanities – such as History, Poetry, Literature
- Other, please specify [\[WRITE-IN\]](#)

3.6 When was the last time you registered for an open online course to improve your job skills, advance your career, or pursue other job aspirations? [Select one]

- I am currently registered for an open online course
- 1-3 months ago
- 4- 6 months ago
- 7 – 12 months ago
- More than a year ago
- Never, I just registered for fun or curiosity
- Don't know/Refuse

3.7 How important are each of the following open online courses features in advancing your professional skill development and learning goals?

(SCALE : 1= Very important, 2= Somewhat important, 3= Neutral, 4= Not very important, 5= Not at all important, 88= Don't know/Refuse)

- The course is self-paced. I can access the videos and other materials for the class at my own time with no strict deadlines arranging my learning activities based on my ability and needs.
- The course offers interactive learning.
- The course offers peer-to-peer learning opportunities through discussion forums, wikis, meet-ups, etc.
- The course is structured. There is a class schedule with deadlines for assignments, a commitment of certain hours of work a week and a set beginning and end date.

3.8 How did you learn about open online courses? [Select all that apply]

- Friend or family member
- Teacher, professor or educational institution
- Online search
- At work
- News article or blog post
- Advertisement
- Social media (Facebook, Twitter, etc.)
- CourseTalk website
- Online forum or discussion board
- Other

4. Your motivation for taking open online courses (MOOCs)

4.1 What are your main motivations for taking open online courses? ([Select all that apply](#))

- Gain specific skills to do my job better
- Take courses from prestigious professors and Universities
- Curious to see what an online course is like
- Gain specific skills to find a new job
- Obtain professional certification
- Prepare for additional education
- Learn something related to my current studies in school
- Gain specific skills to start a business
- Personal fulfillment
- My motivations vary depending on the type of class and my learning needs
- Other, please specify [WRITE-IN]

4.2 In your experience, what are the main challenges you've encountered while taking an open online course? [Select all that apply for each of the following categories]

1. TECHNICAL CHALLENGES

- Limited access to computers
- Limited access to the Internet
- Internet too expensive
- Internet is not fast enough
- Poor video quality
- Difficulty navigating the course website
- Poor audio quality
- Poor troubleshooting and technical assistance

2. LEARNING CHALLENGES

- Difficulty interacting with instructors
- Difficulty learning with no face-to-face interaction
- Ineffective discussion forums
- Lack of time
- High workload and time demand for the course
- Topics covered did not meet my expectations
- Language level of the course is too difficult or too technical
- Courses not offered in my native language

3. OTHER CHALLENGES

- Other, please specify [WRITE-IN]
- I have encountered no challenges

5. Your perception of the benefits of open online courses (MOOCs)

5.1 Thinking of your own experience taking open online courses, how important have the skills gained in these courses been in?

(SCALE 1=Highly important, 2= Important, 3 =Neutral, 4= Not very important, 5= Not at all important, 88= Don't know/Refuse)

- Finding a new job
- Learning or refreshing skills to succeed in a new job
- Earning a promotion in your current job
- Starting a new business
- Improve the management of your current business
- Preparing for a professional certification or exam
- Earning credit towards a vocational or university degree
- Preparing or refreshing for a formal class
- Other, please describe [WRITE-IN]

5.2 Please give an example of how your employment, skill development, or career was impacted from what you learned while taking MOOCs? [WRITE-IN]

6. Your perception of online learning

6.1 How much do you agree or disagree with the following statements regarding online learning?

(SCALE 1=Strongly agree, 2= Agree, 3 =Neutral, 4= Disagree, 5= Strongly disagree, 88= Don't know/Refuse)

- I believe online learning has the same benefits as learning in a classroom.
- Employers do not recognize skills gained from online learning.
- Online courses are inferior to those offered at a school or university
- It is important to learn with other students, not alone on a computer
- Online learning is for "fun", not serious education
- If a course doesn't cost money, it is not good quality
- I can learn anything I want to online from Youtube, Wikipedia, Google, etc.

Would you be willing to participate in a follow-up interview? If yes, please provide your phone number, email address or other contact information.

Email: _____

Phone number: _____

Other: _____

THANK YOU FOR YOUR PARTICIPATION

Appendix 2: MOOC user survey (Spanish)

Estamos llevando a cabo un estudio para entender **cómo los jóvenes de diferentes partes del mundo** participan en los cursos masivos, abiertos y en línea (*Massive Open Online Courses – MOOC*). Los MOOC son cursos en línea que reúnen a personas con diversos perfiles, y que están interesados en un tema en particular. Los MOOC están abiertos para todos, no tienen pre requisitos, son generalmente gratuitos, y pueden soportar un número ilimitado de participantes. Son ofrecidos por una variedad de proveedores tales como Coursera, edX, Udacity, MiriadX, Programa Online UP, TESDA, etc.; que trabajan en colaboración con universidades y otras instituciones.

Si usted está entre las edades de 18 a 35 años, por favor colabórenos diligenciando esta encuesta. Su participación es muy importante para ayudarnos a entender cómo las habilidades adquiridas a través de cursos en línea abiertos afectan las aspiraciones profesionales y de empleo. ¡Haga oír su voz!

La encuesta tardará aproximadamente 10 minutos, y está disponible en inglés y español. Su participación es voluntaria y todas sus respuestas son anónimas.

Si tiene alguna pregunta sobre esta encuesta o el estudio, por favor contacte a la profesora María Garrido migarrid@uw.edu, integrante del Grupo de Tecnología y Cambio Social (*Technology & Social Change Group –TASCHA*) de la Escuela de Información de la Universidad de Washington.

PREGUNTA FILTRO: ¿Alguna vez se ha registrado en un MOOC?

- Sí [[IR A LA ENCUESTA DE USUARIOS MOOC](#)]
- No [[IR A LA ENCUESTA DE USUARIOS POTENCIALES](#)]

Seleccione su país de nacimiento: [[LISTA DE TODOS LOS PAÍSES](#)]

Seleccione país donde vive (si es diferente): [[LISTA DE TODOS LOS PAÍSES](#)]

Seleccione departamento donde vive: [[LISTA DE TODOS LOS DEPARTAMENTOS EN APÉNDICE 1](#)]

- Antioquia
- Atlántico
- Bogotá, D.C.
- Bolívar
- Boyacá
- Caldas
- Caquetá
- Cauca

- Cesar
- Córdoba
- Cundinamarca
- Chocó
- Huila
- La Guajira
- Magdalena
- Meta
- Nariño
- Norte de Santander
- Quindío
- Risaralda
- Santander
- Sucre
- Tolima
- Valle del Cauca
- Arauca
- Casanare
- Putumayo
- Archipiélago de San Andrés
- Amazonas
- Guainía
- Guaviare
- Vaupés
- Vichada

Escriba el nombre de la Ciudad / Municipio / Pueblo donde vive: [\[ESCRIBA\]](#)

1. Información demográfica

Género: Femenino Masculino Otro

Edad: [\[Seleccione un rango\]](#)

- Menos de 18 años [\[LO LAMENTAMOS, PERO NO PUEDE PARTICIPAR EN EL ESTUDIO. GRACIAS POR SU TIEMPO\]](#)
- 18 – 20 años
- 21 – 23 años
- 24 – 26 años
- 27 – 29 años
- 30 – 32 años
- 33 – 35 años
- Más de 35 años

[EDUCATION, EMPLOYMENT AND INCOME QUESTIONS FOR SOUTH AFRICA, COLOMBIA AND THE PHILIPPINES IN APPENDIX 2. FOR THE REST QUESTIONS BELOW]

¿Cuál es el nivel de formación más alto que ha completado? [Seleccione una]

- Ninguno
- Primaria
- Secundaria
- Técnica profesional / Tecnología
- Profesional
- Especialización
- Maestría
- Doctorado

¿Cuál de las siguientes opciones describe mejor su situación laboral? [Seleccione una]

- Empleado tiempo completo
- Empleado medio tiempo
- Empleado por prestación de servicios
- Independiente
- Empleo informal
- Desempleado
- Estudiante sin empleo
- Estudiante con empleo
- Jubilado
- Otro [ESCRIBA]

2. Uso de Internet

2.1 ¿Tiene acceso a Internet en su casa? (por cualquier dispositivo) [Seleccione una]

- Sí
- No
- No Sabe/No responde

2.2 ¿Cuál es el principal dispositivo que utiliza para acceder a Internet? [Seleccione una]

- Computador de escritorio
- Computador portátil (laptop, netbook, tablet)
- Teléfono celular o celular inteligente
- Televisor conectado a Internet (Smart TV)
- Consola de videojuegos
- Otro, por favor especifique [ESCRIBA]

2.4 ¿Dónde accede a Internet con mayor frecuencia? [Seleccione una]

- Casa
- Trabajo
- Colegio/Universidad
- Casa de amigo o familia
- Cybercafe/café Internet
- Telecentro
- Zonas con conexión inalámbrica (wifi) gratuita
- Biblioteca pública
- Otra, por favor especifique [\[ESCRIBA\]](#)

2.4 ¿Cuáles de las siguientes actividades está en capacidad de desarrollar usando Internet? (Por favor, seleccione todas las que apliquen)

- Usar un motor de búsqueda para encontrar información (ej. Google)
- Enviar e-mails con archivos adjuntos (ej. documentos, fotos, etc.)
- Publicar mensajes en sitios de chat, noticias, o foros de discusión en línea (ej. Redes sociales, blogs, etc.)
- Usar Internet para hacer llamadas telefónicas
- Usar plataformas de redes sociales (ej. Facebook, Twitter, Instagram, Flickr, etc.)
- Subir contenidos de su propia autoría (texto, fotos, música, videos, software, etc.) a algún sitio web para ser compartidos
- Crear una página web
- Usar servicios relacionados con viajes y/u hoteles
- Buscar y comprar bienes y servicios en línea
- Usar Banca por Internet
- Usar servicios de gobierno en línea
- Otro [\[ESCRIBA\]](#)

3. Participación en cursos masivos, abiertos y en línea (MOOC)

3.1 ¿En cuántos cursos masivos, abiertos y en línea se ha registrado EN TOTAL? [Seleccione una]

- 1
- 2
- 3
- 4
- 5 o más

3.2 De los cursos masivos, abiertos y en línea en los que se registró, ¿en cuántos ha accedido y / o ha consultado algunos de los materiales, pero no ha completado el curso? [Seleccione una]

- Ninguno, completé todos los cursos en los cuales me registré [\[IR A LA SECCIÓN 3.5\]](#)

- 1
- 2
- 3
- 4
- 5 or more

3.3 De los cursos masivos, abiertos y en línea en que se ha registrado, ¿cuantos ha completado?
[Seleccione una]

- Ninguno [[IR A LA SECCIÓN 3.5](#)]
- 1
- 2
- 3
- 4
- 5 o más

3.4 De los cursos masivos, abiertos y en línea que completó, ¿en cuántos obtuvo el certificado?
[Seleccione una]

- Ninguno
- 1
- 2
- 3
- 4
- 5 o más

3.5 ¿En cuál de las siguientes áreas / materias ha tomado cursos masivos, abiertos y en línea?
[Seleccione todas las que apliquen]

- Ciencias de la Computación – tales como, Programación, Ingeniería de Software, Datos e Informática
- Finanzas – tales como, Inversión, Modelos Financieros, Presupuesto, Contabilidad
- Matemáticas – tales como, Calculo, Estadística
- Negocios y administración – tales como, iniciativa empresarial Servicio de procesamiento de negocios
- Bellas artes y el diseño - tales como, Música, Teatro, Cine, Fotografía, Arquitectura
- Ingeniería
- Derecho – tales como, Contratos, Derecho Penal, Derecho Constitucional
- Ciencias Físicas y Biológicas – tales como, Física, Biología, Química, Anatomía, Geología
- Ciencias Sociales - tales como Educación, Economía, Psicología, Ciencias Políticas, Políticas Públicas
- Medicina y Salud - tales como anatomía, Nutrición, Neurología, Prevención de Enfermedades
- Lenguaje
- Formación profesional
- Humanidades - tales como Historia, Poesía, Literatura

- Otro, por favor especifique [ESCRIBA]

3.6 ¿Cuándo fue la última vez que se registró a un curso masivo, abierto y en línea para mejorar sus habilidades de trabajo, avanzar en su carrera, o alcanzar otras aspiraciones laborales? [Seleccione una]

- Actualmente estoy registrado en uno
- Entre 1 y 3 meses
- Entre 4-6 meses
- Entre 7-12 meses
- Más de un año
- Nunca, sólo me he registrado por diversión o curiosidad
- No sabe / No responde

3.7 ¿Qué tan importantes son cada una de las siguientes características de los cursos masivos, abiertos y en línea para el desarrollo de sus habilidades profesionales y objetivos de aprendizaje?

(ESCALA: 1 = Muy importante, 2 = Algo importante, 3 = Neutral, 4 = Poco importante, 5 = Nada importante, 88 = No sabe / No responde)

- El curso se desarrolla a mi propio ritmo. Puedo acceder a los videos y otros materiales para la clase, de acuerdo a mi disponibilidad de tiempo; no hay plazos estrictos y me es posible organizar las actividades de aprendizaje de acuerdo a mis habilidades y necesidades.
- El curso ofrece un aprendizaje interactivo.
- El curso ofrece oportunidades de aprendizaje entre iguales a través de foros de discusión, wikis, encuentro sincrónico, etc.
- El curso está estructurado. Hay un cronograma de aula con los plazos para las tareas, el compromiso de ciertas horas de trabajo a la semana y una fecha de inicio y finalización.

3.8 ¿Cómo se enteró de los cursos masivos, abiertos y en línea? [Seleccione todas las que apliquen]

- Un familiar o amigo
- Profesor o institución educativa
- Búsqueda en línea
- En el trabajo
- Artículos periodísticos o blogs
- Anuncio publicitario
- Redes sociales (Facebook, Twitter, etc.)
- Página Web
- Foro en línea o foro de discusión
- Otro [ESCRIBA]

4. Motivación para tomar un curso masivo, abierto y en línea (MOOC)

4.1 ¿Cuáles son sus principales motivaciones para tomar cursos masivos, abiertos y en línea? (Seleccione todas las que apliquen)

- Adquirir habilidades específicas para hacer mejor mi trabajo

- Tomar cursos de profesores y universidades de prestigio
- Curiosidad por saber cómo es uno de estos cursos
- Adquirir habilidades específicas para encontrar un nuevo trabajo
- Obtener una certificación profesional
- Prepararme para adquirir conocimientos adicionales
- Aprender algo relacionado con mis estudios actuales en la escuela
- Adquirir habilidades específicas para iniciar un negocio
- Realización personal
- Mis motivaciones varían dependiendo del tipo de clase y mis necesidades de aprendizaje
- Otros, por favor especifique [ESCRIBA]

4.2 En su experiencia, ¿cuáles son los principales retos que ha experimentado al tomar un curso masivo, abierto y en línea? [Seleccione todas las que correspondan para cada una de las siguientes categorías]

1. RETOS TÉCNICOS

- Acceso limitado a computadores
- Acceso limitado al servicio de Internet
- El servicio de Internet es muy costoso
- Su conexión a Internet no es suficientemente rápida
- Mala calidad de los videos
- Dificultades para navegar en el sitio web del curso
- Mala calidad del audio
- Escasa asistencia técnica y de solución de problemas

2. RETOS DE APRENDIZAJE

- Dificultad para interactuar con los instructores
- Dificultad para aprender sin la interacción cara a cara
- Foros de discusión ineficaces
- Falta de tiempo
- La alta carga de trabajo del curso, y el tiempo que demanda su desarrollo
- Los temas del curso no cumplen las expectativas
- El nivel de idioma del curso es demasiado difícil o muy técnico
- Cursos no ofrecidos en mi lengua nativa

3. OTHER CHALLENGES

- Otros, por favor especifique [ESCRIBA]
- No he encontrado ninguna dificultad

5. Percepción acerca de los beneficios de los cursos masivos, abiertos y en línea (MOOC)

5.1 Teniendo en cuenta su propia experiencia al tomar cursos masivos, abiertos y en línea, ¿qué tan importantes han sido las habilidades adquiridas en estos cursos para?:

(ESCALA: 1 = Muy importante, 2 = Algo importante, 3 = Neutral, 4 = Poco importante, 5 = Nada importante, 88 = No sabe / No responde)

- Encontrar un nuevo puesto de trabajo
- Aprender o recordar habilidades para tener éxito en un nuevo trabajo
- Obtener una promoción en su trabajo actual
- Comenzar un nuevo negocio
- Mejorar la gestión de su negocio actual
- Prepararse para una certificación profesional o examen
- Obtener créditos académicos homologables en un programa universitario
- Prepararse o actualizarse para una clase formal
- Otros, por favor especifique [ESCRIBA]

5.2 Por favor, dé un ejemplo de cómo su empleo, el desarrollo de habilidades, o su carrera se vieron impactados por lo que aprendió en los MOOC [WRITE-IN]

6. Percepción acerca de la formación virtual

6.1 ¿Cuánto está usted de acuerdo o en desacuerdo con las siguientes afirmaciones respecto a la formación virtual?

(ESCALA: 1 = Totalmente de acuerdo, 2 = De acuerdo, 3 = Neutral, 4 = En desacuerdo, 5 = Totalmente en desacuerdo, 88 = No sabe / No responde)

- Creo que la formación virtual tiene los mismos beneficios que la formación presencial
- Los empleadores no reconocen los conocimientos adquiridos a través de la formación virtual
- Los cursos virtuales son académicamente inferiores a los ofrecidos en una escuela o universidad
- Es importante aprender con otros estudiantes, no solo en un computador
- La formación virtual se hace por diversión, no es una educación seria
- Si un curso no cuesta dinero, no es de buena calidad
- Puedo aprender lo que desee a través de Youtube, Wikipedia, Google, etc.

¿Estaría dispuesto a participar en una entrevista de seguimiento? En caso afirmativo, por favor proporcione su número de teléfono, dirección de correo electrónico u otra información de contacto.

Correo electrónico: _____

Número de teléfono: _____

Otro: _____

GRACIAS POR SU PARTICIPACIÓN

Appendix 3: Non-user survey*

[*Some questions for this survey were adapted from the study by Christensen et. al. (2013)]

We are conducting a study to understand **how young people in different parts of the world** participate in massive open online courses (MOOCs). MOOCs are online courses that bring together people from diverse backgrounds interested in a particular topic and they are open to anyone with no prerequisites. Courses are usually free, and they can support an unlimited numbers of participants. MOOCs are offered in many ways through providers such as Coursera, edX, Udacity, MiriadX, UP Online Program, TESDA, etc. that work in partnership with universities and other institutions.

If you are between the ages of 18-35, please fill out this survey. Your participation is very important to help us understand how skills gained through open online courses affect employment and career aspirations. Make your voice heard!

The survey will take approximately 10 minutes, and it is available in English and Spanish. Your participation is voluntary and all your responses are anonymous.

If you have any questions about this survey and the study please contact: Professor Maria Garrido migarrid@uw.edu of the Technology & Social Change Group (TASCHA) of University of Washington's Information School

FILTER QUESTION: Have you ever registered for a MOOC?

- Yes [[GO TO MOOC USERS](#)]
- No [[GO TO MOOC POTENTIAL USERS SURVEY](#)]

Country where you were born: [LIST ALL COUNTRIES]

Country where you live (if different): [LIST ALL COUNTRIES]

Province: [[QUESTION ONLY FOR SOUTH AFRICA, PHILIPPINES, AND COLOMBIA. LIST OF PROVINCES FOR EACH COUNTRY IN APPENDIX 1](#)]

City/Town/Village where you live: [[Write-in](#)]

1. Your Demographic Information

Gender: Female Male Other

Your age: [Select one]

- Under 18 [[MESSAGE WE ARE SORRY BUT YOU DON'T QUALIFY TO PARTICIPATE IN THE STUDY](#)]
- 18 - 20

- 21 - 23
- 24 - 26
- 27 - 29
- 30 - 32
- 33 - 35
- Over 35

[EDUCATION, EMPLOYMENT AND INCOME QUESTIONS FOR SOUTH AFRICA, COLOMBIA AND THE PHILIPPINES IN APPENDIX 2. FOR THE REST QUESTIONS BELOW]

What is the highest level of education that you have completed? [Select one]

- Preschool and kindergarten
- Primary School
- Secondary school
- High School
- Vocational School
- College
- Graduate School

Which of the following best describes your employment status? [Select one]

- Employed part time
- Employed full time
- Self-employed
- Unemployed
- Student not working
- Student working
- Retired
- Other

2. Your use of Internet

2.1 Do you have access to the Internet at home? (by any device) [Select one]

- Yes
- No
- Don't know/Refuse

2.2 What is the main device you use for accessing the Internet? [Select one]

- Desktop computer
- Portable computer (laptop, netbook, tablet)
- Mobile phone or smart phone
- TV connected to the Internet (Smart TV)
- Game console
- Other, please specify [\[WRITE IN\]](#)

2.5 Where do you access the Internet most frequently? [Select one]

- Home
- Work
- School/University
- Friend's/relative's house
- Cybercafe/Internet café
- Telecenter
- Free wifi zones
- Public library
- Other, please specify [\[WRITE IN\]](#)

2.4 Which of the following are you able to do using the Internet? (Please, select all that apply)

- Use a search engine to find information (e.g. Google)
- Send e-mails and attached files (e.g. documents, pictures, etc.)
- Post messages to chat rooms, newsgroups or an online discussion forum (e.g. on social networking sites, blogs, etc.)
- Use the Internet to make telephone calls
- Use social media sites (e.g. Facebook, Twitter, Instagram, Flickr, etc.)
- Upload self-created content (text, photos, music, videos, software etc.) to any website to be shared
- Create a web page
- Use services related to travel or travel related accommodation
- Search and shop for goods and services online
- Use Internet Banking
- Use e-government services
- Other

3. Your awareness of open online courses (MOOCs)

MOOCs are online courses that can be taken by anyone from anywhere usually for free and they can support an unlimited numbers of participants. Courses are offered in many ways through providers such as Coursera, edX, Udacity, MiriadX, University of Philippines, TESDA, etc., that work in partnership with universities and other institutions.

3.1 Had you heard about massive open online courses (MOOCs) before taking this survey?

- Yes [\[GO TO 3.2.\]](#)
- No [\[GO TO SECTION 5\]](#)

3.2 How did you first hear about MOOCs?

- Friend or family member
- Teacher, professor or educational institution
- Online search
- At work
- News article or blog post
- Advertisement
- Social media (Facebook, Twitter, etc.)
- CourseTalk website
- Online forum or discussion board
- Other

4. Reasons for not taking open online courses (MOOCs)

4.1 In your experience, what are your most important reasons for not taking MOOCs? [Select all that apply]

- Have no need/ Not interested (already have a good job, have a degree, etc.)
- Not enough time
- Prefer to learn in a classroom with other students
- The skills gained in an online course are not recognized by my employer/educational institution
- Courses are not relevant for finding a job or getting a promotion
- I don't have access to a computer
- Internet too expensive
- Internet is not fast enough
- No available courses in my language
- I don't think I have enough computer skills to participate in the course
- I can learn anything I want to from Youtube, Wikipedia, Google, etc.
- No available courses in the subject I am interested in
- Other, please describe [\[WRITE IN\]](#)

5. Increasing your participation in open online courses (MOOCs) for skill development and professional aspirations

5.1 Would you be more or less likely to take a MOOC if:

[\(SCALE 1= Very likely, 2= Likely, 3= No difference, 4= Not likely, 5 = Highly unlikely 88=Don't know/Refuse](#)

- Your employer told you which MOOCs to complete to qualify for a promotion or a different position
- If there is a pathway with a set of courses that can lead to a certification or degree
- If it was easier to learn about MOOC course offerings and read reviews of the courses
- If the skills gained in the course were recognized by your employer or potential employer
- If your local university or school identified MOOCs which could be used as part of a degree or specialization track
- If you could take a MOOC as part of a group, at a local library, telecenter, community or cultural center
- If your local school, university, library, telecenter, or community center helped you to get started taking an online course
- If the course was designed to work on a mobile phone
- If it was offered by a prestigious academic institution
- If there was more relevant content in your language
- If the content of the courses was more relevant for the area and context where you live

5.2 In which of the following areas/subjects would you be interested in taking a MOOC? [Select all that apply]

- Computer Sciences – such as, Programming, Software Engineering, Data and Informatics
- Finance – such as, Investment, Financial Modeling, Budgeting, Accounting.
- Mathematics – such as, Calculus, Statistics
- Business and Management (including entrepreneurship, business processing services, etc.)
- Fine arts and design – such as Music, Theater, Film, Photography, Architecture
- Engineering
- Law – such as, Contracts, Criminal Law, Constitutional Law
- Physical and Biological Sciences – such as, Physics, Biology, Chemistry, Anatomy, Geology
- Social Sciences – such as Education, Economics, Psychology, Political Science, Public Policy
- Medicine and Health – such as Anatomy, Nutrition, Neurology, Disease Prevention
- Language
- Vocational training
- Humanities – such as History, Poetry, Literature
- Other, please specify [\[WRITE-IN\]](#)

6. Perceptions of online learning

6.1 How much do you agree or disagree with the following statements regarding online learning?

(SCALE 1=Strongly agree, 2= Agree, 3 =Neutral, 4= Disagree, 5= Strongly disagree, 88= Don't know/Refuse)

- I believe online learning has the same benefits as learning in a classroom.
- Employers do not recognize skills gained from online learning.
- Online courses are inferior to those offered at a school or university
- It is important to learn with other students, not alone on a computer

- Online learning is for “fun”, not serious education
- If a course doesn’t cost money, it is not good quality
- I can learn anything I want online from Youtube, Wikipedia, Google, etc.

Would you be willing to participate in a follow-up interview? If yes, please provide your phone number, email address or other contact information.

Email: _____

Phone number: _____

Other: _____

THANK YOU FOR YOUR PARTICIPATION

Appendix 4: MOOC non-user survey (Spanish)

Estamos llevando a cabo un estudio para entender **cómo los jóvenes de diferentes partes del mundo** participan en los cursos masivos, abiertos y en línea (*Massive Open Online Courses – MOOC*). Los MOOC son cursos en línea que reúnen a personas con diversos perfiles, y que están interesados en un tema en particular. Los MOOC están abiertos para todos, no tienen pre requisitos, son generalmente gratuitos, y pueden soportar un número ilimitado de participantes. Son ofrecidos por una variedad de proveedores tales como Coursera, edX, Udacity, MiriadX, Programa Online UP, TESDA, etc.; que trabajan en colaboración con universidades y otras instituciones.

Si usted está entre las edades de 18 a 35 años, por favor colabórenos diligenciando esta encuesta. Su participación es muy importante para ayudarnos a entender cómo las habilidades adquiridas a través de cursos en línea abiertos afectan las aspiraciones profesionales y de empleo. ¡Haga oír su voz!

La encuesta tardará aproximadamente 10 minutos, y está disponible en inglés y español. Su participación es voluntaria y todas sus respuestas son anónimas.

Si tiene alguna pregunta sobre esta encuesta o el estudio, por favor contacte a la profesora María Garrido migarrid@uw.edu, integrante del Grupo de Tecnología y Cambio Social (*Technology & Social Change Group –TASCHA*) de la Escuela de Información de la Universidad de Washington.

PREGUNTA FILTRO: ¿Alguna vez se ha registrado en un MOOC?

- Sí [[IR A LA ENCUESTA DE USUARIOS MOOC](#)]
- No [[IR A LA ENCUESTA DE USUARIOS POTENCIALES](#)]

Seleccione el país de nacimiento: [[LISTA DE TODOS LOS PAÍSES](#)]

Seleccione el país donde reside (si es diferente): [[LISTA DE TODOS LOS PAÍSES](#)]

Seleccione el departamento donde reside: [[LISTA DE TODOS LOS DEPARTAMENTOS EN APÉNDICE 1](#)]

- Antioquia
- Atlántico
- Bogotá, D.C.
- Bolívar
- Boyacá
- Caldas
- Caquetá
- Cauca
- Cesar

- Córdoba
- Cundinamarca
- Chocó
- Huila
- La Guajira
- Magdalena
- Meta
- Nariño
- Norte de Santander
- Quindío
- Risaralda
- Santander
- Sucre
- Tolima
- Valle del Cauca
- Arauca
- Casanare
- Putumayo
- Archipiélago de San Andrés
- Amazonas
- Guainía
- Guaviare
- Vaupés
- Vichada

Escriba el nombre de la Ciudad / Municipio / Pueblo donde vive: [\[ESCRIBA\]](#)

1. Información demográfica

Género: Femenino Masculino Otro

Edad: [Seleccione un rango]

- Menos de 18 años [\[LO LAMENTAMOS, PERO NO PUEDE PARTICIPAR EN EL ESTUDIO. GRACIAS POR SU TIEMPO\]](#)
- 18 – 20 años
- 21 – 23 años
- 24 – 26 años
- 27 – 29 años
- 30 – 32 años
- 33 – 35 años
- Más de 35 años

[\[EDUCATION, EMPLOYMENT AND INCOME QUESTIONS FOR SOUTH AFRICA, COLOMBIA AND THE PHILIPPINES IN APPENDIX 2. FOR THE REST QUESTIONS BELOW\]](#)

¿Cuál es el nivel de formación más alto que ha completado? [Seleccione una]

- Ninguno
- Primaria
- Secundaria
- Técnica profesional / Tecnología
- Profesional
- Especialización
- Maestría
- Doctorado

¿Cuál de las siguientes opciones describe mejor su situación laboral? [Seleccione una]

- Empleado tiempo completo
- Empleado medio tiempo
- Empleado por prestación de servicios
- Independiente
- Empleo informal
- Desempleado
- Estudiante sin empleo
- Estudiante con empleo
- Jubilado
- Otro [ESCRIBA]

2. Uso de Internet

2.1 ¿Tiene acceso a Internet en su casa? (por cualquier dispositivo) [Seleccione una]

- Sí
- No
- No Sabe/No responde

2.2 ¿Cuál es el principal dispositivo que utiliza para acceder a Internet? [Seleccione una]

- Computador de escritorio
- Computador portátil (laptop, netbook, tablet)
- Teléfono celular o celular inteligente
- Televisor conectado a Internet (Smart TV)
- Consola de videojuegos
- Otro, por favor especifique [ESCRIBA]

2.6 ¿Dónde accede a Internet con mayor frecuencia? [Seleccione una]

- Casa
- Trabajo
- Colegio/Universidad
- Casa de amigo o familia
- Cybercafe/café Internet
- Telecentro
- Zonas con conexión inalámbrica (wifi) gratuita
- Biblioteca pública
- Otra, por favor especifique [\[ESCRIBA\]](#)

2.4 ¿Cuáles de las siguientes actividades está en capacidad de desarrollar usando Internet? (Por favor, seleccione todas las que apliquen)

- Usar un motor de búsqueda para encontrar información (ej. Google)
- Enviar e-mails con archivos adjuntos (ej. documentos, fotos, etc.)
- Publicar mensajes en sitios de chat, noticias, o foros de discusión en línea (ej. Redes sociales, blogs, etc.)
- Usar Internet para hacer llamadas telefónicas
- Usar plataformas de redes sociales (ej. Facebook, Twitter, Instagram, Flickr, etc.)
- Subir contenidos de su propia autoría (texto, fotos, música, videos, software, etc.) a algún sitio web para ser compartidos
- Crear una página web
- Usar servicios relacionados con viajes y/u hoteles
- Buscar y comprar bienes y servicios en línea
- Usar Banca por Internet
- Usar servicios de gobierno en línea
- Otro [\[ESCRIBA\]](#)

3. Participación en cursos masivos, abiertos y en línea (MOOC)

Los MOOC son cursos en línea que reúnen a personas con diversos perfiles, y que están interesados en un tema en particular. Los MOOC están abiertos para todos, no tienen pre requisitos, son generalmente gratuitos, y pueden soportar un número ilimitado de participantes. Son ofrecidos por una variedad de proveedores tales como Coursera, edX, Udacity, MiriadX, Programa Online UP, TESDA, etc.; que trabajan en colaboración con universidades y otras instituciones.

3.1 ¿Había escuchado acerca de los cursos masivos, abiertos y en línea (MOOC) antes de participar en esta encuesta?

- Sí [\[Ir a sección 3.2.\]](#)
- No [\[Ir a sección 5\]](#)

3.2 ¿Cómo escuchó por primera vez acerca de los MOOC?

- Un familiar o amigo
- Profesor o institución educativa
- Búsqueda en línea
- En el trabajo
- Artículos periodísticos o blogs
- Anuncio publicitario
- Redes sociales (Facebook, Twitter, etc.)
- Página Web
- Foro en línea o foro de discusión
- Otro [ESCRIBA]

4. Razones para no realizar cursos masivos, abiertos y en línea (MOOC)

4.1 Desde su perspectiva, ¿cuáles son las razones más importantes para no tomar un MOOC? [Seleccione todas las que aplique]

- No lo necesita/ No está interesado (ya tiene un buen trabajo, ya tiene un título universitario, etc.)
- No tiene tiempo suficiente
- Prefiere aprender en un salón de clase con otros estudiantes
- Los conocimientos adquiridos en un curso en línea no son reconocidos por mi empleador o institución educativa
- Los cursos no son relevantes para buscar un trabajo o conseguir un ascenso
- No tiene acceso a un computador
- El servicio de Internet es muy costoso
- Su conexión a Internet no es suficientemente rápida
- No encuentra cursos disponibles en su idioma
- Considera que no tiene los conocimientos informáticos suficientes para participar en este tipo de cursos
- Puedo aprender lo que quiera a través de Youtube, Wikipedia, Google, etc.
- No encuentra cursos disponibles en el tema que a usted le interesa
- Otro, por favor especifique [ESCRIBA]

5. Incrementar la participación en cursos masivos, abiertos y en línea (MOOC) para el desarrollo de habilidades y por aspiraciones profesionales

5.1 Estaría más dispuesto a realizar un curso masivo, abierto y en línea si:

(SCALE 1= Muy probable, 2= Probable, 3= Indiferente, 4= Improbable, 5 = Muy improbable, 88=No sabe /No responde

- Su empleador le dice que tiene que completar un MOOC para cualificarse y obtener un ascenso o una posición diferente
- Hubiera una secuencia de varios cursos que le permitan hacerse a una certificación o grado académico
- Fuera más fácil conocer acerca de los MOOC ofrecidos y leer comentarios acerca de estos

- Los conocimientos adquiridos en el curso fueran reconocidos por su empleador o potencial empleador
- Los colegios y universidades aceptaran los MOOC como créditos académicos homologables en asignaturas del colegio o un programa universitario
- Pudiera cursar un MOOC como parte de un grupo en una biblioteca, telecentro, comunidad o centro cultural.
- En los colegios, universidades, bibliotecas, telecentros, localidades o barrios le brindaran orientaciones para iniciar un MOOC
- Los cursos fueran diseñados para ser realizados a través de un teléfono celular
- Los cursos fueran ofrecidos por una prestigiosa institución educativa
- Existiera contenido más relevante en su idioma
- El contenido de los cursos fuera más relevante para el área y contexto donde usted vive.

5.2 ¿En cuáles de las siguientes áreas/temas estaría interesado en tomar un MOOC? [Seleccione todas las que aplique]

- Ciencias de la Computación – tales como, Programación, Ingeniería de Software, Datos e Informática
- Finanzas – tales como, Inversión, Modelos Financieros, Presupuesto, Contabilidad
- Matemáticas – tales como, Calculo, Estadística
- Negocios y administración – tales como, iniciativa empresarial Servicio de procesamiento de negocios
- Bellas artes y el diseño - tales como, Música, Teatro, Cine, Fotografía, Arquitectura
- Ingeniería
- Derecho – tales como, Contratos, Derecho Penal, Derecho Constitucional
- Ciencias Físicas y Biológicas – tales como, Física, Biología, Química, Anatomía, Geología
- Ciencias Sociales - tales como Educación, Economía, Psicología, Ciencias Políticas, Políticas Públicas
- Medicina y Salud - tales como anatomía, Nutrición, Neurología, Prevención de Enfermedades
- Lenguaje
- Formación profesional
- Humanidades - tales como Historia, Poesía, Literatura
- Otro, por favor especifique [ESCRIBA]

6. Percepción acerca de la formación virtual

6.1 ¿Cuánto está usted de acuerdo o en desacuerdo con las siguientes afirmaciones respecto a la formación virtual?

(ESCALA: 1 = Totalmente de acuerdo, 2 = De acuerdo, 3 = Neutral, 4 = En desacuerdo, 5 = Totalmente en desacuerdo, 88 = No sabe / No responde)

- Creo que la formación virtual tiene los mismos beneficios que la formación presencial
- Los empleadores no reconocen los conocimientos adquiridos a través de la formación virtual
- Los cursos virtuales son académicamente inferiores a los ofrecidos en una escuela o universidad

- Es importante aprender con otros estudiantes, no solo en un computador
- La formación virtual se hace por diversión, no es una educación seria
- Si un curso no cuesta dinero, no es de buena calidad
- Puedo aprender lo que desee a través de Youtube, Wikipedia, Google, etc.

¿Estaría dispuesto a participar en una entrevista de seguimiento? En caso afirmativo, por favor proporcione su número de teléfono, dirección de correo electrónico u otra información de contacto.

Correo electrónico: _____

Número de teléfono: _____

Otro: _____

Muchas gracias por su participación

Appendix 5: Interview guide for government

KII from Government Agency/Ministry [Education, Labor/Employment, Technology, Accreditation Gov. Institutions]

Introduce the AMDI Initiative.

Online courses have the potential to expand quality education and career training worldwide. Yet few people in developing countries access Massive Open Online Courses (MOOCs), despite the fact that MOOCs are open to the public and often free. Recognizing this unmet potential, the U.S. Agency for International Development (USAID) and CourseTalk, the largest source of MOOC reviews, have partnered to determine how online education can best help young adults across the developing world grow successful careers. The initiative will be driven by research on MOOC usage in Colombia, the Philippines and South Africa conducted by the Technology & Social Change Group (TASCHA) at the University of Washington's Information School with support from IREX.

To be filled by interviewer:

- Name of Interviewee:
- Role/Position:
- Agency/Ministry:
- Date of the interview:
- Brief description of the work agency/department does within Ministry/Government:
- Brief summary of the relevance of this agency/department for understanding the role MOOCs play or could play for advancing its policy/program goals:

Part 1: Awareness of MOOCs

1. From your perspective, what is the general awareness [agency, ministry, department] about MOOCs and their potential to increase access to education and employment opportunities for young people?
2. Are there existing programs/policies in this [agency, ministry, department] that include MOOCs as part of their policy strategy?
 - a. If so, could you please describe this program(s)? (nature, target groups, expected policy goals, etc.)
3. Are there existing programs/policies in other [agency, ministry, department] that include MOOCs that you may know about?

4. Are there other programs/policies you are aware of that include other forms of online learning (but not MOOCs)? If yes, please describe

Part 2: Policies/programs promoting youth employability

1. From the perspective of your [agency, ministry, department] what are the main education and employability challenges youth face in the country?
2. Has your [agency, ministry, department] identify the skills employers look for in the growing sectors of the economy? If yes, could you please describe
3. Has your [agency, ministry, department] developed programs/policies (or it is planning to) to address this skills shortage and improve young people's employability opportunities? (Addressing skills shortage, skills demanded by employers, etc.)

Part 3: MOOCs education and employability | Opportunities and challenges

1. In your opinion, what are the main challenges your country faces to increase access to education and employment opportunities through MOOCs?
 - a. Social
 - b. Economic
 - c. Cultural
 - d. ICT access
2. Are there efforts at your [agency, ministry, department] to address some of these challenges?
3. Are there efforts at the local and national government level you are aware of to address some of these challenges?
4. In your opinion, do you consider that increasing access to MOOCs through government policies or programs could help improve education and employment opportunities for the youth?
 - a. If yes, could you please describe how MOOCs could become a potential venue for increasing education and employability for youth if included in certain government policies or programs?
 - b. If no, could you please elaborate on the lack of potential for MOOCs to improve education and employment for youth?

Part 4: Partnerships

1. Does your [agency, ministry, department] currently partner with Universities, vocational schools, MOOC providers, NGOs, formal and informal training organizations, and the private sector to advance policies/programs that target youth education and employability?
 - a. If yes, could you please briefly describe the nature of these partnerships?
 - b. If no, are there future plans to partner with any of these stakeholders to promote education and employability for youth?

Any additional information you would like to share:

Thank you very much for your participation

Appendix 6: Interview guide for employers

Introduce the AMDI Initiative.

Online courses have the potential to expand quality education and career training worldwide. Yet few people in developing countries access Massive Open Online Courses (MOOCs), despite the fact that MOOCs are open to the public and often free. Recognizing this unmet potential, the U.S. Agency for International Development (USAID) and CourseTalk, the largest source of MOOC reviews, have partnered to determine how online education can best help young adults across the developing world grow successful careers. The initiative will be driven by research on MOOC usage in Colombia, the Philippines and South Africa conducted by the Technology & Social Change Group (TASCHA) at the University of Washington's Information School with support from IREX.

To be filled by interviewer:

- Name of Interviewee:
- Role/Position:
- Company Name:
- Company Location:
- Company Size:
- Years company has been in existence
- Sector:
- Date of the interview:
- Brief summary of the relevance of this employer/company for the study (Why was this employer selected?)

[Note: The questions below are designed to provide guidance on the interviews and are meant to be adapted by the local country teams depending on 1) the company/employer you are interviewing, 2) The position they hold in the company, and 3) The interviewee's awareness of MOOCs.]

Part 1: Awareness of MOOCs by employer (company)

5. We are interested in your knowledge about the use, and potential use of massive open online courses (MOOCs) as channels to improve the employability of young people in the country. We are particularly interested in learning the impact that this type of course can have in the hiring practices and professional development of employees at your company. Had you heard about MOOCs before this interview?
 - a. If yes, please describe what you know about MOOCs?

- b. If no, [\[Describe what MOOCs are and adapt questions below\]](#) MOOCs are online courses that can be taken by anyone from anywhere usually for free and they can support an unlimited numbers of participants. Courses are offered in many ways through providers such as Coursera, edX, Udacity, MiriadX, University of Philippines, TESDA, etc., that work in partnership with universities and other institutions.

Part 2: Skills needed in the industry/company

4. From the perspective of you company/industry, what are the most sought after skills/degrees you look for in prospective young employees? [\[This is a difficult question to answer systematically since it will depend of the level/kind of positions they are referring to. We can clarify with follow up questions\]](#)
 - a. For junior positions
 - b. For more senior positions
5. Are there partnerships or connections between your company and Universities in the country for recruiting new employees?
 - a. If yes, please describe the nature of these partnerships/connections
6. Does your company in general require/privilege formal qualifications (University or vocational degree) in your recruiting and hiring practices?
7. Is your company facing difficulties hiring new employees and retaining talent with the right profile/skills for the needs of your company?
 - a. If yes, what kinds of skills he/she perceives are in shortage?
8. In your view, are there any company programs and/government policies that could help improve the skill set of prospective young employees in order to fulfill your company human resources' needs?
 - a. If yes, please describe

Part 3: Perception of MOOCs' participation in hiring decisions

1. What is your overall perception of the quality of education provided by MOOCs and online learning in general?
2. Some young prospective employees are noting MOOC courses they have completed when applying for jobs. If the MOOC course completed is relevant to the potential job function, how would your company view the skills-set acquired through this course in your hiring decisions.
 - a. Positively? Please elaborate
 - b. Negatively? Please elaborate
 - c. No difference? Please elaborate
3. If your current employees take a course in MOOCs to further improve their skills, would your company consider this for a job promotion?
4. Does your company take into account the non-formal courses (MOOCs or other type) in employee wage decision?
5. If you take into account courses taken in MOOCs for hiring decisions, will you give more importance to the topic of the course or the institution offering it?

6. In your view, how important is for prospective young employees to gain a certification of the MOOC courses they take?
7. Is your company currently offering opportunities for professional development for current employees through online learning (MOOCs or other type)?
 - a. If yes, please describe
 - b. If no, please elaborate if there are any plans to offer it in the future

Part 4: Partnerships to address skills shortage in industry

2. Does your company currently partner with Universities, vocational schools, MOOC providers, or government agencies to address the skill shortage in the industry/provide better and more job opportunities for youth?
 - a. If yes, could you please briefly describe the nature of these partnerships?
 - b. If no, are there future plans to partner with any of these stakeholders to promote education and employability for youth?

Any additional information you would like to share:

Thank you very much for your participation

Appendix 7: Survey sampling rationale

We consider two primary analysis scenarios to help inform the user and non-user survey sample sizes per country (certainly not the only analyses, more will be devised in conjunction with the survey instruments). These are

Estimating the error around proportions of a response, for example the percentage of the sample that has taken more than one MOOC +/- some error.

Testing differences in a response between two groups, for example if a different percentage of female versus male respondents have taken more than one MOOC.

Sample size calculations for the above two cases do not change much for populations of 5,000 and up, so for these estimates we will assume the population is “large”. With total populations of 50 – 100 million for each of the three target countries, and with the number of Coursera users in each of the three countries of between 4,000 and 14,000, assuming a population of over 5,000 to sample from is not unreasonable for both MOOC users and non-users.

After considering three scenarios (sample sizes of 300, 400, and 500), our recommendation is that 400 for each survey per country is desirable. With 400 surveys, that would let us estimate total percentages +/- 5% and, if evenly split into two groups of 200, estimate group percentages +/- 7% as well as reliably detect differences in means between the two groups of 0.14 or larger.

However, if resources are available to sample 500 or more, that could increase the possible analysis options in two ways. First, we would expect smaller errors around estimates, plus the ability to detect smaller differences between groups. Secondly, it may allow for comparisons between more than two groups, since these calculations are assuming that we are primarily comparing two groups (for example male vs female).

Calculations

Attaching an error to a percentage is the simpler case. This error depends primarily on the sample size, thus the trade-off in error size versus sample size is straight-forward to calculate.

Determining the sample size needed when testing the difference between two groups is more complicated and requires additional assumptions. First, assume that we are testing a simple binary variable (for example a yes/no response) for two groups. Secondly, we set the desired power level at 0.80, where power is the “ability of a test to detect an effect, if the effect actually exists” (wikipedia.org). Then for a given sample size in each group, the calculation gives the smallest difference in response that we would reliably detect.

Below are details on the three scenarios: sample sizes of 300, 400, and 500. For each one, we provide two possible splits: 50/50, and 40/60, corresponding approximately to the two observed gender splits from the Coursera data.

Sample size 300

Error in percentages:

Description	Group size	Error
Full sample	300	X% +/- 6%
Split 50/50 into two groups	150 in both	X% +/- 8%
Split 40/60 into two groups	120	X% +/- 9%
	180	X% +/- 7%

Differences between groups:

Description	Group size	Detectable Difference in Mean
Split 50/50 into two groups	150 in both	0.16
Split 40/60 into two groups	120/180	0.18

Sample size 400

Error in percentages:

Description	Group size	Error
Full sample	400	X% +/- 5%
Split 50/50 into two groups	200 in both	X% +/- 7%
Split 40/60 into two groups	160	X% +/- 8%
	240	X% +/- 6%

Differences between groups:

Description	Group size	Detectable Difference in Mean
Split 50/50 into two groups	200 in both	0.14
Split 40/60 into two groups	160/240	0.16

Sample size 500

Error in percentages:

Description	Group size	Error
Full sample	500	X% +/- 4%
Split 50/50 into two groups	250 in both	X% +/- 6%
Split 40/60 into two groups	200	X% +/- 7%
	300	X% +/- 6%

Differences between groups:

Description	Group size	Detectable Difference in Mean
Split 50/50 into two groups	250 in both	0.13
Split 40/60 into two groups	200/300	0.14

Appendix 8: Colombia country profile

National Demographic Statistics: Colombia has a population of 48 million inhabitants, which makes it the third largest country in Latin America, behind Brazil (205 million) and Mexico (121 million). The latest report from the Departamento Administrativo Nacional de Estadísticas [National Administrative Bureau of Statistics, (DANE)] sets the total rate of economic employment participation in Colombia at 66.9%, with an official occupational rate of 61.4%. The official figure for unemployment is 8.2%, although non-government institutions set this number slightly higher at roughly 9%¹⁵



Internet & Connectivity Overview:

- Households with a computer: 42.2%
- Households with Internet Access at home: 35.7%

¹⁵ http://www.fedesarrollo.org.co/wp-content/uploads/PMTI_30_NOV_2015_INF_FINAL.pdf

- Individuals using the Internet: 51.7%¹⁶
- Average Download Speed Broadband: 4 Mbps¹⁷

Education: The Colombian higher education sector, once thought of as under-performing, has been upgraded remarkably in the last decade. In 2002, the government launched an education improvement program called *Revolución Educativa* (Education Revolution). Tertiary enrolments have increased since then; however, Colombia is still below the OECD average.¹⁸ The OECD noted that between 2007 and 2011, the country's total education spending increased by over 43%, and there was a corresponding rise in the percentage devoted to higher education. Colombia's expenditure in education is higher than average for Latin America and near the OECD, and the government has established a National Program for Advising Higher Education Institutions on Internationalization, led by the Ministry of National Education in collaboration with a group of 23 universities.

Some main points of the Colombian government strategy are:

- Including a global dimension in all academic programs and in all institutions.
- Linking internationalization to accreditation processes, as well as approval and review of academic programs
- Mainstreaming second language requirements into the curriculum in order to increase second language competence.
- Incentivizing institutions to develop national/international/cross-sector partnerships for teaching, research, and public services.
- Developing a more coordinated approach between COLCIENCIAS (Administrative Department of Science, Technology, and Innovation) and higher education and research institutions¹⁹

Labor Market Trends: Colombia's economy has experienced an average annual growth of 5.5% since 2002. In 2012, 23.8 million Colombians served as labor force in the economy, with an average income of US \$ 10,700, resulting in US \$ 500,000 million Gross Domestic Product (GDP). However, unequal distribution of wealth remains to 29.3% (2014) of Colombians living below the national poverty line, to which the poor pension system adds.²⁰

Gender in the Labor Market: According to the Department of National Statistics, Colombia has a population rate by sex distributed approximately 51% to 52% in women and from 48% to 49% in men.²¹ Income inequality in Colombia has declined since the early 2000s but remains very high by international standards. Income dispersion largely originates from the labor market, which is characterized by a still

¹⁶ www.itu.int Colombia 2013

¹⁷ http://testmy.net/hoststats/colombia_telecomunic

¹⁸ <http://monitor.icef.com/2013/02/colombia-seeks-the-best-path-forward-for-its-tertiary-sector/>

¹⁹ *ibid*

²⁰ <http://www.worldbank.org/en/country/colombia>

²¹ [dx.doi.org/10.4236/ojps.2014.44020](https://doi.org/10.4236/ojps.2014.44020)

high unemployment rate, a pervasive informal sector and a wide wage dispersion reflecting a large education premium for those with higher education.²² Increasingly are more women that lead their resume to labor market: commercial, banking and public services. They are the professionals who leave the university or the rural sector in search of work. Although there are more men than women available for work, the market captures more women workers than men, the main reasons being the rise of the service economy, the increasing labor supply of women head of household, and the need to lower labor costs to compete with low prices in domestic and international markets.²³ Another reason that explain the growth of female labor supply in the 90s has been violence. During the time of the violence in the 90s, and particularly in the rural sector, paramilitary, drugs-guerrilla and the illegal forces stimulated the settlement of urban neighborhoods as farming families fled violence in the field and migrated to the city in search of employment. This often involved widows and orphans.²⁴

Growth Industries: In terms of job creation, during the trimester of July-September 2015, 485,100 jobs were created and 161,000 were eliminated resulting in a total of 321,100 new jobs. The highest job creation for the period comes from commerce and hotels 265,100 Construction 99,000 and Social Services 81,100. The greatest loss of jobs come from agriculture -105,000, manufacturing -52,100 and mining -3,000. The job creation for 2015 was higher than from 2014, although there are clear signs that is slowing down, consistent with the overall deceleration of the economy.²⁵ The main reasons for the deceleration are the low prices of key commodities like oil and coal, which comprise most of Colombian exports, but also with the low growth of regional trading partners such as Ecuador and Venezuela. Still, Colombia shows an above average growth for Latin American countries, and along with Peru have the biggest economic growth of the Pacific Alliance group²⁶ As for the non-active members of economic population, official data establishes that 41.9% are engaged in education, 38.6% are dedicated to housekeeping activities, and 19.6% are considered "Others" which includes pensioners, people permanently unable to work, those who are unwilling to look for work, among others (DANE, 2015).²⁷

Skills Sought by Employers: As for the employment selection process, a recent study from the British Council "Latin America Study of Labor Skills", performed in medium and large companies reveals that 'previous experience' is by far the biggest indication of success (32%), followed by teamwork (18%), and communication both in Spanish and English (17%). A second language is increasingly important, mentioned by 47% of respondents in Colombia. Other important skills sought for are information technologies (84%), problem solving skills (91%), reading-writing skills (85%), oral communication and presentation skills (87%), and technical skills specific to the position in question (85%)²⁸

Youth and Unemployment Trends: Current labor policy has focused on generating opportunities for youth employment. The first Job Law intends to generate employment for those young people who

²² http://www.oecd-ilibrary.org/economics/income-inequality-and-poverty-in-colombia-part-1-the-role-of-the-labour-market_5k487n7451f1-en

²³ dx.doi.org/10.4236/ojps.2014.44020

²⁴ dx.doi.org/10.4236/ojps.2014.44020

²⁵ http://www.fedesarrollo.org.co/wp-content/uploads/PMTI_30_NOV_2015_INF_FINAL.pdf

²⁶ *ibid*

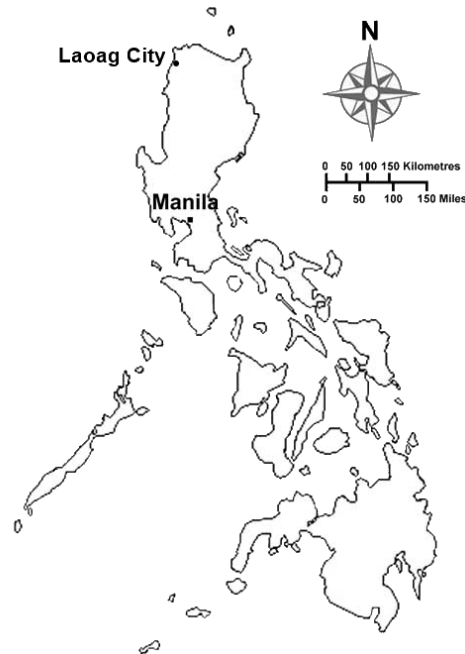
²⁷ http://www.fedesarrollo.org.co/wp-content/uploads/PMTI_30_NOV_2015_INF_FINAL.pdf

²⁸ <http://www.portafolio.co>

graduate from technical, undergraduate or technologists, and land their first formal job. The “transformarte” initiative aims to change the employment culture of youth in the country, improving capabilities to facilitate their participation in social, productive and income-generating activities. This initiative is aimed at young victims of the conflict between 16 and 28 years. It provides grants at 100% for certified high quality academic programs. In the most recent call for applications it is thought to benefit more than 2,800 young people.²⁹ Likewise E-Labrador is an educational tool designed to assist in creating resumes. The goal is for formal and informal workers, with or without experience, to find a mechanism to help them develop their professional profile properly, thereby allowing them to have more opportunities for employment commensurate with their knowledge, skills and expectations.

²⁹ <http://www.mintrabajo.gov.co/empleo/abece-ley-de-primer-empleo.html>

Appendix 9: Philippines country profile



National Demographic Statistics: The total population of the Philippines in 2015 estimated by the Philippine Population Commission was 101,562,305 million³⁰ with growth rate of 1.82%³¹. In the Philippines, youth is defined by the Philippine Statistics Authority (PSA) as the segment of the

³⁰ Population Commission (POPCOM) "Socio Demographic Profile" retrieved at <http://www.popcom.gov.ph/> on December 30, 2015

³¹ National Statistics Coordinating Board, "Average Annual Exponential Growth Rates, Philippines: 2000-2040" retrieved at http://www.nscb.gov.ph/secstat/d_popnProj.asp on December 30, 2015

population from ages 15 to 30 years old. The youth population within the ages of 15 to 30 years is estimated at 28% of the total population ³²with a male to female ratio of 102:100³³.

Internet & Connectivity Overview:

- Households with a computer: 18.7%
- Households with Internet Access at home: 22.9%
- Individuals using the Internet: 37%
- Average Download Speed Broadband: 3.4 Mbps³⁴

Education: Functional literacy rates of women and men from 10 to 64 years are at 88.7 and 84.2 respectively.³⁵ The Philippine Education for All Report in 2015 Review Report synthesized that primary education participation rate was almost 100% but secondary education participation rate was at 65% only. Completion rates at the primary and secondary levels were only 72% and 73% respectively. In 2014, the Philippines passed the “K to 12 (Kindergarten to Grade 12) Law” that increases the number of years in basic and secondary education.³⁶ There has been an increase in technical and vocational skills education with vocational training found at 35% of the student body at public schools and 19% in TESDA training institutions. The employment rate among graduates increased from 48% in 2006 to 65% in 2013.³⁷ The Functional Literacy, Education and Mass Media Survey (FLEMMS) reported that one in every ten or about 4 million Filipino children and youth were out of school in 2013. The statistics showed a total of 17.5% youth aged 15 to 24 years old were out of school; of the number, 24% were female and 11.2% male. In tertiary education, enrolment of women in 2015 was more than 1.9 Million while enrolment of men was about 1.6 million. Higher education was dominated by 5 disciplines: (1) business administration, (2) education and teacher training, (3) engineering and technology, (4) information technology and related disciplines, and (5) medical and allied courses.³⁸ The Philippine Statistics Authority in its 2015 Factsheet on Women and Men in the Philippines reported that the commonly chosen course of women was in business administration; while men tend to choose IT-related courses.

Labor Market Trends: The Philippine Statistics Authority reported that from January 2014 to January 2015 about 1.04 million Filipinos joined the labor market. There are three general classifications of employment areas for job seekers: the agriculture sector, the industry sector and the services sector. Reportedly the services sector (54.6%) accounted for the largest share of the labor force followed by the

³² Philippine Statistics Authority “Youth (15 – 30 Years Old) Household Population...” retrieved at <http://labstat.psa.gov.ph/PUBLICATIONS/Yearbook%20of%20Labor%20Statistics/STATISTICAL%20TABLES/PDF/CHAPTER%207/Tab7a1.pdf> on December 30, 2015. Using the UN youth age group, 15 to 24 years old, the estimated number of youth population in 2013 to 2014 is about 19%.

³³ Philippine Statistics Authority, “The Age and Sex Structure of the Philippine Population” retrieved at <https://psa.gov.ph/content/age-and-sex-structure-philippine-population-facts-2010-census>, on December 30, 2015

³⁴ Philippine Country Profile ITU & OOKLA Index Ranking 2014

³⁵ Philippine Statistics Authority, “Factsheet on Women and Men in the Philippines” March 2015

³⁶ Prior to the K to 12 Law, the Philippine basic education was only 6 years and secondary education was 4 years only.

³⁷ UNESCO, “Philippine Education for All 2015 Review Report” retrieved <http://unesdoc.unesco.org/images/0023/002303/230331e.pdf>

³⁸ Asian Institute of Management (Asis, Scalabrini), “Youth, Employment, and Migration” July 2013

agriculture (29.5%) and industry (15.9%).³⁹ Mostly unskilled workers and laborers make up the work force.

Gender in the Labor Market: In terms of gender, The Asian Development Bank observed in 2011 that most working women (15 years and older) were laborers or unskilled workers (35%), working in government as government officials, executives and managers (19%), or in sales and service (14%).⁴⁰ According to the Bureau of Labor and Employment Statistics-Department of Labor and Employment (BLES-DOLE), the total number of employed women in 2014 was 15.3 million although 39% lower than the employment number of men.⁴¹

Growth Industries: A significant growth sector in the country since the 2000 is the Business Process Outsourcing and Offshoring industry (BPO), which has been driving the country forward. It is regarded as one of the reasons for the country's resilience in the face of the global financial crisis in 2008.⁴² The BPO and IT sectors play huge roles in the economic growth of the Philippines regarded as "most important job generators" as the industry employs a million of Filipino professionals, particularly in the call center and outsourcing businesses.⁴³

Skills Sought by Employers: In 2010 the People Management Association of the Philippines (PMAP) released the results of their Critical Skills Survey. It reported that the hardest jobs to fill in were those in information technology, sales and finance, all of which requiring high level of education. It also reported that the most important skills areas for workers across all job types are: leadership and responsibility, critical thinking and problem solving, flexibility and adaptability, productivity and accountability, and good communication skills.⁴⁴ The National Technical Education and Skills Development Plan (NTESDP) 2011-2016 has identified the most sought after skills that a Filipino worker must possess in the 21st century. The skills identified comprise the following characteristics: 1) technically competent; 2) innovative and creative; 3) knowledge-based, with higher order thinking (HOT) skills; 4) with foundational life skills; 5) in pursuit of lifelong learning opportunities; and 6) possessing desirable work attitudes and behavior".⁴⁵

³⁹ Philippine Statistics Authority cited by Paolo Taruc of CNN March 2015.

⁴⁰ ADB Gender Equality in the Labor Market in the Philippines <http://www.adb.org/publications/gender-equality-labor-market-philippines>

⁴¹ DOLE-BLES 2015, accessed at <http://www.bles.dole.gov.ph/PUBLICATIONS/Current%20Labor%20Statistics/STATISTICAL%20TABLES/PDF/Tab9.pdf>

⁴² Cayetano Paderanga, Jr., (2011). "Private Sector Assessment" published by the Asian Development Bank

⁴³ Speech of IBPAP Chairman Danilo Reyes, IBPAP News 17 October 2014 accessed at <http://www.ibpap.org/media-room/ibpap-news/880-speech-of-ibpap-chairman-danilo-reyes>

⁴⁴ Katherine Visconti, Rappler, "Beyond English: the key skills BPOs need " October 2012; accessed at <http://www.rappler.com/business/13699-what-key-skills-are-needed-to-work-in-bpo> December 2015

⁴⁵ TESDA, "Labor Market Intelligence Report – HOT Skills for HOT Jobs" CODE: ST-PO 02-05-2013 accessed at http://www.tesda.gov.ph/uploads/File/Planning2013/Hot%20skills%20for%20Hot%20jobs_final.pdf January 2016

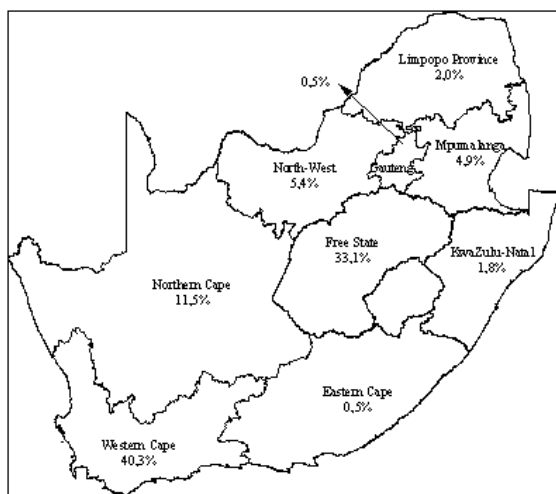
Youth and Unemployment Trends: The Philippine Statistics Authority (PSA) defines the Philippine labor force as that segment of the population over the age of 15 who are employed or unemployed.⁴⁶ The labor force participation rate of Philippine youth population in 2014 is estimated at 55.2%. Unemployment among youngers workers 15 to 30 is reportedly high. In March 2015 the PSA data released from the Labor Force Survey reported that of the 4.1million unemployed Filipinos about 47% (2M) are in the age group of 15 to 24 years old while the 31.6% (1.3M) were in the age group of 25 to 34 years of age.⁴⁷ Young overseas foreign workers make up 15% of new hires.

⁴⁶ Philippine Statistics Authority, 2014 Statistical Yearbook retrieved at <http://labstat.psa.gov.ph/PUBLICATIONS/Yearbook%20of%20Labor%20Statistics/explanatory.html> on December 30, 2015.

⁴⁷ Philippine Statistics Authority cited in Chito Chavez of Manila Bulletin's "Unemployed Youth a stiff government problem" news May 4, 2015 retrieved at <http://www.mb.com.ph/unemployed-youth-a-stiff-govt-problem/#Y7woZYMglFh5U1fl.gg>

Appendix 10: South Africa country profile

National Demographic Statistics: With a population of 53 million inhabitants, 68% of which are urban, South Africa is considered a medium-income, emerging market economy backed with natural resources and a stock exchange that is Africa's largest.⁴⁸ South Africa is characterized as a young society, with approximately 42% of the population being between the ages of 14 and 35. South Africa is socially, culturally and economically diverse, marked by high levels of inequality. The discriminatory legacy of apartheid, an institutionalized system of racial segregation in effect until 1994 is still evident in all sectors of society. Despite the emergence of an African middle class, a large portion of the population (approximately half), lives below the poverty line and is made up primarily of individuals previously classified as Black (including those of mixed and Indian descent). The country comprises nine provinces ranging from relatively rich and multi-cultural Gauteng and the Western Cape to relatively rural and poor provinces such as Limpopo and the Eastern Cape. Internal migration puts pressure on government services in urban areas, which in recent years erupted in numerous and often violent service delivery protests. The second half of 2015 was marked by student protests at most South African universities, where students from previously marginalized communities lamented a lack of inclusion and transformation.



⁴⁸ <http://data.worldbank.org/country/south-africa>

Internet & Connectivity Overview:

- Households with a computer: 25.8%
- Households with Internet Access at home: 39.4%
- Individuals using the Internet: 48.9%⁴⁹
- Average Download Speed Broadband: 3.5 Mbps⁵⁰

Education: The education system of South Africa still reflects the split between well-resourced historically “White” schools and universities, now catering for students from all racial groups, and historically “Black” schools and universities, catering mainly for poor students from semi-urban and rural areas. Because of Apartheid planning, such areas still coincide with either townships, the semi-urban settlements where Africans were forced to reside, or former homelands, recognized as independent states where Africans could claim citizenship under Apartheid. The Department of Higher Education and Training (DHET) is responsible for post school education and training to meet the skill requirements in South Africa, irrespective of where the learning takes place e.g. college, university. Tertiary education occurs mainly through three main types of public and private education and training institutions, namely: Higher Education Institutions (HEIs); Further Education and Training/Technical and Vocational Education and Training (FET/TVET) Colleges and Adult Education and Training (AET) Centers. In 2013, the HEI sector comprised of 136 public and private institutions, the FET/TVET comprised of 68 public and private colleges and the AET sector comprised of over 3200 private and public centers. Altogether 2,155,712 students were enrolled at the time.

In South Africa, Massive Open Online Courses (MOOCs) may support distance learning to overcome financial and human resources constraints as well as for quality assurance (Chen, Barnett, Stephens, 2013). As is the case in other developing countries, relatively few people in South Africa appear to access MOOCs. This may be due to low fixed Internet penetration (close to 10% according to ITU 2013). As in other parts of Africa, mobile phones may become the preferred device to access the Internet and, by extension, MOOCs (see Boga & McGreal, 2014). According to World Wide Works (2014), approximately 3.1 Million South Africans are active Facebook Users. Up to 50% of youth, even in remote rural areas, use instant messaging and social media, mainly on their mobile phone. The price of data is very high (Goldstuck 2010), which discourages use among members of the lower LSMs (Living Standard Measure) which account for 56.8% of the population (Statistics South Africa 2011). Access to the Internet through cellphones, though relatively widespread, is still recent. As noted by Goldstuck (2010) this means people may not be aware or not be confident enough to engage with online resources for learning as well as other activities. Moreover, most South Africans do not have a functional proficiency in English, which may prevent them from taking advantage of MOOCs. These constraints need to be taken into account in relation to questions around infrastructure, such as to what extent is it possible for young adults to take online learning and online courses and specifically, MOOCs.

Labor Market Trends: In South Africa the private sector remains the biggest driver of job creation, however; government does play an incremental role in supporting employment creation as well as providing short-term work opportunities through public and community works projects. Currently there are 15, 3 million people who are employed in South Africa showing a growth in employment from 2014 by

⁴⁹ www.itu.int South Africa Country Profile 2013

⁵⁰ <http://businesstech.co.za/news/broadband/91868/average-broadband-speed-for-south-africa-to-reach-10mbps/>

203 000 jobs. These statistics were released by Stats SA in The Labour Survey report on the 10th February 2015.

Gender in the Labor Market: The employment rates in South Africa show a sharp divide between genders with 60% of the male population being employed, while just 31% of women have official employment.⁵¹ The labor force participation rates of white South Africans (70.5%) are slightly higher than colored(mix race) South Africans (66.5%) and Indian/Asian South Africans (60.4%), but much higher than black South Africans (54.6%). A reverse trend is observed when looking at unemployment rates where black South Africans have the highest unemployment rate (23.5%) as compared to colored (19.5%), Indian/Asian (12.7%) and white (4.6%).⁵²

Growth Industries: Government is the biggest employer in South Africa, but the top three industries responsible for driving job creation in South Africa include: natural resources, agriculture and food processing, and manufacturing. Manufacturing contributed 15.2% to South Africa's GDP in 2013, making it the third-largest contributor to the nation's economy. Of particular interest, while the manufacturing sector is low in comparison to the top two industries, the top 10 employers in South Africa revealed that companies in the manufacturing industry were listed as 10th, 9th, 8th, 7th and 1st biggest employers in South Africa in 2015. South Africa's agro-processing sector likewise plays a significant role in terms of job creation and sustainability. By 2015, the sector had marked an increase in jobs due to the national acquisition, restitution and distribution of land to improve the rural economy and increase the number of small holder producers and enterprises. The public and private sector availed themselves to mentor and finance. South Africa's ICT sector contributes approximately 8.2% to the national GDP. It is the largest and most advanced ICT sector in Africa through the placement of fiber-optic cable, wireless and satellite technology by the private and public sector. The local ICT market is diverse with a combination of both first world and developing country standards that require a large range of systems and applications to cater for specific local contexts. The country has developed a broadband policy known as "South Africa Connect" which seeks to connect all schools, public health and other government facilities, and 90% of the general public to the internet by the year 2020. Ideally, this should mean an increase in opportunities and exposure to ICT.

Skills Sought by Employers: Media reports suggest that the South African ICT sector could employ up to 70,000 skilled personnel but cannot find qualified candidates. There are queries around this figure, however; because very few specific examples of where the shortages exist are readily located. Some telecommunication companies laid-off a large number of employees in the past few years, yet a large number of IT graduates cannot find work. Multiple reasons are given for this: employment of ICT graduates is based on meeting strict requirements such as workplace experience, technical skills and an excellent academic record from prestigious universities. Short courses offer usually focus on a specific skill which is sufficient only if it constitutes an upskill to existing ones.

The electricity sector in South Africa is mostly dominated by the national utility, Eskom. A very small percentage of electricity is supplied by municipalities, redistributors and private generators. In 2015, the number of people employed in this industry was 58,000. However, it has been noted that this sector has a

⁵¹ http://www.bc.edu/research/agingandwork/archive_pubs/CP11.html p.3

⁵² ibid p.5

shortfall of skills in engineering, planning, technical and artisan, therefore South Africa has made it a priority to develop these in collaboration with learning institutions.

Finally, the automotive industry has shown rapid growth in South Africa. The ability of this industry to offer quality products at competitive prices compared to other automotive manufacturing and assembly centers means it is perfectly placed for investment opportunities. Government support played an instrumental role in the automotive sector allowing it to produce over 566 000 units in 2014, compared to 356 800 units in 2000. This support has grown auto exports in 2014 by 24 times the amount of units realized in 1995. As a result, 300 000 jobs have been created in the automotive sector.

Youth and Unemployment Trends: Youth unemployment is exceedingly high in South Africa. Even those with degrees struggle to find skilled jobs. The youth unemployment rate is above 40%. Approximately one in three students drop out of university and statistics are even higher at lower levels (close to a 75% dropout and only a small percentage of matriculates qualify for university entrance). South Africa is moving to create black industrialists and entrepreneurs through its government proposal to procure 70% of goods and services from local producers, suppliers and contractors. Government leadership has mentioned that in order to enable this, there is the need for better access to finances, support and infrastructure in existing and new sectors. The procurement of local goods and services goes a long way towards Black Economic Empowerment (BEE) compliance. BEE required employing a certain number of individuals from previously disadvantaged groups (Black, Colored, and Indian) for local empowerment. At the same time, the South African Immigration Act allows the employment of foreigners to utilize and gain from their expertise and promote economic growth. While the employment of foreign skills may be seen as a contradiction of the BEE policy (i.e. in terms of empowering and upskilling locals), many sectors, especially ICT admit to using foreign skills at times but insist that they are committed to local training and empowerment.