



THE

WORLD

WE

WANT

Cambodian Youth Perspectives

Edited by

OU VIRAK
LAURA BECKWITH
MICHAEL RENFREW

 វិទ្យាស្ថាន
FUTURE FORUM

© Future Forum

Core Donor



In Partnership With



secdev.foundation



The World We Want

Edited by

OU VIRAK

LAURA BECKWITH

MICHAEL RENFREW

Chapter 19 | Adoption of MOOC in Cambodia for Workforce Development

Dara DAN

Future Scenario

Sovannarith recently changed career from technology consulting to business development. Since he graduated five years ago (in 2045) from the University of Phnom Penh with a bachelor's degree in business administration, he has been working at Deloitte. He loved consulting because it gave him opportunities to meet and learn from so many people. Since Cambodia became an upper middle-income country in 2034, it has attracted many new multinational corporations. Companies are now setting up local offices instead of just having regional branches in Thailand and Singapore. Sovannarith has led multiple projects for clients across different industries. The work always kept him engaged. More recently, he wanted to explore a different role. A client introduced Sovannarith to Sokna, who is the CEO of a new sparkling water startup based in Ta Khmao City. Sovannarith enjoys his new role as the Head of Business Development but frankly, he is struggling. He had anticipated that the new role would put him out of his depth, so a month prior to joining the company, he registered for a specialization in strategy planning on Coursera to better develop his skills and prepare for the new role. It is a six-month specialization, with certifications from both Coursera and the Cambodian Ministry of Education, Youth and Sport.

It is not easy managing his time between a full-time job and the online course, but he knows it is worth the challenge. The classes are subsidized for people who work in startups because the government wants to encourage more entrepreneurship. Every night after work, he spends an hour or two learning on his laptop. During his undergraduate studies and earlier career, Sovannarith did have some exposure to strategy planning, but it was so many years ago that he does not feel very confident about his skills, especially when he has to lead his team of 5 analysts. The online course is helping to fill some important knowledge gaps such as design thinking and marketing frameworks. He is certain that the knowledge he is gaining will greatly benefit him in his job since he needs to bring new innovative ideas to grow the startup.

Sovannarith loves learning on a Mass Open Online Course (MOOC) platform because the classes are curated by a renowned Harvard professor and Sovannarith gets to engage with students from all over the world in the comfort of his home. He could take similar classes at his alma mater on the weekend, but the content produced is not comparable to that of elite global universities. Cambodia is still developing local teaching talent. There is some appeal to in-person instruction,

but it would mean Sovannarith would not have time off at all. It would also require a longer time to complete a similar workload. With MOOC on the other hand, he can study at his own convenience. Moreover, MOOC is more affordable, helping him save money to purchase his first car in two years if all goes as planned.

Introduction

In Cambodia, there is a nationwide shortage of skilled employees and often limited access to quality education (Bruni et al., 2013). The country has grown economically in the last two decades driven primarily by garment exports and tourism, reaching lower middle-income status in 2015 (The World Bank, 2021). However, it is challenging for Cambodia to achieve upper middle-income status given its inadequately skilled labor force, particularly in the age of digital transformation. Two megatrends – technology changes and globalization – are changing the skills people need for their jobs and more importantly, redefining the jobs and where they will be needed (Kovács-Ondrejovic et al., 2019).

It is inevitable that the workforce will need to upskill and reskill in order to stay relevant. The Future of Jobs Report identifies top skills of the future workforce, and some examples are: analytical thinking and innovation, active learning and learning strategies, complex problem-solving, critical thinking and analysis, and technology use (World Economic Forum, 2020). While the labor force in Cambodia is young, it is also poorly educated. Despite the steady increase in school enrollment rates over the years, the *Cambodia Socio-Economic Survey 2019-20* shows that only 13% of those aged between 25 and 34 years old have postsecondary education (National Institute of Statistics, 2020). This makes it harder for the workforce to be ready for the future of work. Moreover, Cambodia lags behind in regard to human capital. The World Economic Forum ranks Cambodia among the least competitive countries in ASEAN and in the world, placing the country 106th out of 141 countries in the Global Competitiveness Index 4.0, 2019 edition. In particular, Cambodia scores 40 out of 100 for ‘critical thinking in teaching’ which is an evaluation criterion for skills of the future workforce (Schwab, 2019). The National Employment Agency 2017 report finds that of those employers with recruitment difficulties, more than half state that it is due to a low number of applicants with the required skills and a lack of work experience or qualifications (Bruni et al., 2013).

With the goal to become a more digital society in the immediate future, Cambodia today is still very far behind. There are economic and social benefits to education, especially in the context of workforce development. However, the cost of higher education is rising. The rapid changes in pedagogy make it difficult for institutional facilities to keep up with teaching models and delivery systems to meet specific demands and needs of the private sector (APPA, 2013). For a developing economy that needs to advance and diversify beyond their current industries, Cambodia must

first and foremost acknowledge the urgency to develop a more skilled workforce through additional and more innovative educational approaches. Mass open online courses or, “MOOC”, is an emerging global phenomenon that can address this challenge.

Context Analysis

There is no universally accepted definition of MOOC, but it is generally understood that an MOOC is an online course that normally requires no prior qualifications for entry, can be accessed by anyone with an internet connection, and includes a large number of learners from diverse backgrounds (edX, n.d.). Most importantly, courses are usually free if there is no certification given. Coined in 2008 by Dave Cormier and Bryan Alexander, the term MOOC referred to a course developed by Stephen Downes and George Siemens that intended to utilize online tools to have wider geographical interactions (Nova Southeastern University, 2020). Their course had over two thousand students from around the world joining remotely with 25 students attending the course on-campus at the University of Manitoba. Today, there are many available MOOC platforms serving millions of people everywhere. Among them, some of the most widely recognized names include edX, Coursera, Udemy, and Udacity.

MOOC is at a nascent phase of development but already this new pedagogy is beginning to tackle some of the most challenging issues facing the traditional model of education and workforce development today. Gulatee and Nilsook (2015) find that the most important benefits of MOOC are affordability and accessibility. The recent popularity of this distance learning method is due to the easier access for those who are located remotely from universities, who are working or who have other constraints or commitments that prevent them from attending traditional higher education institutions. MOOC can accommodate higher numbers of students and a wider audience, covering an expansive geographical spread (Hollands and Trithali, 2014). It gives an opportunity to connect openly on a global scale with learners across the world. Moreover, compared with a classroom model, MOOC has little to no participation fee. By reducing the financial barrier, MOOC can increase access to education and provide opportunities for many people. MOOC offers high productivity, lower cost, and better utilization of technology (Kumar and Mishra, 2015).

Additionally, MOOC is a great resource for individuals to develop professionally and learn new skills. Hamori (2018) shares that companies in practice pay little attention to training their employees which is a missed opportunity to harness staff development to contribute even more meaningfully to organizational goals. MOOC provides a new and important way of offering opportunities at scale for skills development. With an increasing number of partnered institutions, MOOC consistently offers quality and relevant content according to current market needs. Hamori (2018) surveyed over a thousand employed learners and to find that many acquire

work-related skills through MOOC. Even those with formal degrees invest in additional learning with MOOC as a means to upskill in a competitive job market fueled by the growth and increased prevalence of technology; they consider MOOC as a complementary mechanism through which they can bridge their skills gap (Calonge & Shah, 2016). A study of MOOC in Australia suggests “MOOCs are currently or could be utilized by employees to upgrade their skills and competencies in a constantly changing environment and by professional associations to offer recognized continuing professional development options to their members” (Calonge et al., 2019).

Due to MOOC being relatively new, existing literature examining it in the context of developing countries is still limited. Garrido and Koepke (2016) find that MOOC in developing countries tends to attract younger and more diverse educational backgrounds than their counterparts in developed countries. The study examined three developing countries – Colombia, the Philippines, and South Africa and found that MOOC in developing contexts are utilized by students for gaining specific skills to perform better in their job, obtaining professional certification, preparing for additional education, and finding a new job. They learn computer sciences, languages, and business and management. For developing countries that have limited resources – human and financial – MOOC has the potential to impact the workforce significantly, creating a positive outlook for the future of work. In a world that is in need of upskilling, MOOC helps platform participants learn something new. For business topics in particular, MOOC “can essentially serve as boosters for professionals who are looking to make the most out of an education-focused period of their career” (Driscoll, 2021).

While there is some awareness of this new pedagogy of distance learning, utilizing MOOC is not yet explored fully and critically. Education researchers and policymakers are still trying to understand elements associated with MOOC to determine the benefits and the impacts. Michael Trucano, a Policy Specialist at the World Bank expresses that:

There are basically two ways for policymakers to view opportunities to utilize MOOCs: they can essentially (and passively) participate in the ‘MOOC phenomenon’ as a consumer of things produced elsewhere, or they can use participation in MOOCs as a strategic opportunity to help develop related local capacities. Both options are legitimate, but the latter option, while much more difficult to pursue, may be worth serious consideration (Trucano, 2013, Section 5).

However, there are fundamental concerns facing MOOC in developing countries. Access to digital technologies goes beyond having a device and internet coverage. It is “embedded in a complex array of factors encompassing physical, digital, human and social resources and relationship” (Warschauer, 2004, p.6). In Cambodia, the two main areas of concern are the lack of technology infrastructure and the language barrier; the two are intertwined with one another and related to other factors such as the divide between urban and rural populations. 90% of youth between the

ages of 15 and 30 own a smartphone, but the number is only at 75% for those living in rural areas. Computer ownership rate is much lower, at 35% for high school students and 69% for working youth (UNDP, 2020, p.7-8). The annual English Proficiency Index by Education First ranked Cambodia 94th out of 100 countries included in the study, which is in part due to low internet penetration (Senase, 2019). These are undoubtedly major challenges to learners. However, rather than dismissing MOOC and its potential, these challenges should prompt further discussion among different stakeholders. The MOOC market is projected to grow significantly in the next couple of years, so it is apparent that MOOC is gaining traction. Therefore, policymakers must not passively observe but actively embrace the MOOC phenomenon, working with public, private and development partners to seize this opportunity.

Policy Analysis

The Royal Government of Cambodia (RGC) understands the importance and the necessity of digital technology for Cambodia to realize its long-term ambition to become a developed country by 2050. A key policy priority is to develop human resources with quality, capacity, and ethics as highlighted in the *Rectangular Strategy Phase IV* (Royal Government of Cambodia, 2018). In the Sixth Legislature of the National Assembly, the government reaffirms the focus on strengthening the quality of education, science, and technology sectors. At the ministerial level, the Ministry of Education, Youth and Sport (MoEYS), introduced two overarching medium-term policies, one of which is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. In particular, the *Education Strategic Plan 2019 – 2023* promotes digital education, proposing to integrate information and communication technology (ICT) into a tool for teaching and learning, and to share knowledge across the whole education sector. This strategic reform is designed to equip students with knowledge and skills on ICT to facilitate a transition into more competitive employment. To complement ICT for education, MoEYS also focuses on developing English and other foreign languages in the subsector focus of secondary and technical education, aiming to improve access, retention, and quality of learning (MoEYS, 2019). This plan is intended to advance ICT infrastructure in Cambodia and to develop the workforce.

In parallel with improving the quality of education for the future of work, the government also formally adopted the *National Employment Policy 2015 – 2025* aiming to achieve the following goals: increase decent and productive employment opportunities; enhance skills and human resources development; strengthen labor market governance (International Labour Organization, 2015). There is yet to be a comprehensive progress report detailing the progress and impact of the policy on the labor market.

Moreover, the government collaborates closely with other stakeholders such as private sector actors and development partners. For instance, MoEYS organized a labor market forum to provide career advice for young people to discuss their technical and soft skills development (MoEYS, 2019, p.1). Khmer Enterprise, the implementation unit of the Entrepreneurship Development Fund established under the Ministry of Economy and Finance, supports a UNDP project to promote decent youth employment in the context of the changing landscape of Industry 4.0, which is expected to bring widespread technological advancements to all sectors of the economy (UNDP, n.d.). More recently, the discussion has expanded from digital skills for the future Cambodian workforce to include the need for human skills such as social and emotional intelligence (Ukthaun, 2020). McKinsey projects that by 2030, demand for technological, social and emotional, and higher cognitive skills are expected to rise hand in hand with automation (Bughin et al., 2018).

It is important to recognize these tremendous efforts, but there are challenges that still need to be addressed to ensure Cambodia's workforce remains competitive. Most pressing is that education in Cambodia, particularly higher education, cannot fully respond to the labor market demands and rising regional and global standards. The current focus for human resource development heavily emphasizes aspects relevant to primary and secondary education, and insufficient attention is placed on higher education when it comes to educational policy. Cambodia has seen an increase in the number of higher education institutions and student enrollment. In 2006, there were 50 higher education institutions and by 2016, the number jumped to 118 (Hang, 2018, pp. 401 – 402). However, much more is needed to solve the mismatch between skills and labor market needs than just opening new institutions. A study of Cambodian higher education finds that the quality of education quality is still lacking. Many lecturers have not published papers and while there is a library at each university, resources like study materials are not up-to-date and inadequate. Moreover, interaction between lecturers and students is limited or nearly nonexistent outside the standard classroom time. 90% of the lecturers never have a technical discussion or meeting (Chen et al., 2007). Policy priorities and actions moving forward need to include assessment of new and emerging pedagogies, both digital and traditional, that could enhance the quality of education with respect to the changing market landscape.

Policy Recommendations

To achieve the ambitions for workforce development and enhance the quality of education in Cambodia, a more coherent policy framework is needed. Cambodia has only recently begun to formulate policies addressing the intersection between education, technology, and workforce – for example, the promotion of digital education in response to the future of work in the age of technology. While the sentiment is there, many shortcomings remain to be addressed within the

policies and their implementation. There is a heavy focus within current policy on improving existing institutions and programs. While that is important as the government plans for the years to come, there needs to also be more conversations around new approaches. Moreover, the government needs to move more aggressively. Technology is changing faster and faster given the scale and complexity of the world today, causing a wider gap for developing countries from the global benchmark.

MOOC provides a unique opportunity for Cambodia to address its challenges with education and workforce development. These courses would not replace the traditional formal education, but rather could be an essential supplement. MOOC as a new digital pedagogy is well aligned with the Education Strategic Plan 2019 – 2023. MOOC equips students and young professionals with knowledge and relevant skills, which are very critical for the future workforce. MOOC takes advantage of technology to access international teaching resources. Studies have shown that social interactions in MOOC fosters quality learning because it has the unique ability to bring diverse learners together into one space (Askeroth and Richardson, 2019). Cambodia needs to view MOOC as an opportunity and fully embrace the tool to prepare its workforce for a digital economy. Some policy recommendations are provided below which will help to successfully integrate MOOC into the education system in Cambodia. Ultimately, the government, represented by MoEYS, needs to promote the use of the alternative pedagogical approach enabled by MOOC to improve learning outcomes. Some immediate actions include:

Research and knowledge: MOOC should support higher education students and professionals in their learning within and beyond the existing academic institutions. MOOC will not replace the traditional pedagogy in a classroom setting but rather, provide an additional learning tool. MoEYS should establish a working group comprising different stakeholders including education researchers and practitioners, relevant ministries, development partners, emerging private sector leaders, and most importantly, MOOC students. The objective of this group is to closely follow MOOC at the global level and discuss the fit of this pedagogy for the Cambodian context. MOOC is reinventing and reimagining education in the 21st century. It provides another way to learn new skills, advance careers, and deliver a high quality educational experience. However, MOOC is new. There is still limited information about MOOC, particularly in developing countries, so it is important to evaluate the pedagogy on a regular basis to identify areas of improvement.

Quality assurance framework: MOOC's popularity has been due to its ability to offer very recent, relevant, and abundant educational content. However, having too many options could also be very confusing for interested candidates. They might find it overwhelming to navigate the resources. Instead of allowing and accepting all courses for accreditation, MoEYS will need to develop the means to assess and filter only selected courses. For greater effectiveness, MoEYS should engage public and private higher education institutions to shortlist courses that fit well

with the courses currently offered from their institutions. The immediate benefit is clear – students will be able to take courses previously unavailable. It is therefore important to introduce a way to confirm and validate course completion to assure a certain level of effort and standard of learning. With courses mostly self-directed with no teacher, a randomized quality audit may be a necessary policy. Another way to address this concern could be to require participants to come in for in-person exams administered by proctors. This more hybrid approach might be an easier transition for participants, so courses are not completely and immediately online. Moreover, the government should issue some form of recognition for the MOOC such as pre-approved specializations for young professionals. It also helps to prioritize courses that respond more to the market needs. For instance, MoEYS could offer a social media marketing specialization that requires participants to take a certain number of courses that the ministry finds relevant for the selected track. All in all, quality assurance is incredibly important as it helps the government clearly measure output quality and benchmark against regional and international standards.

Investment for engagement: Affordability of MOOC is not a big concern for participants given that MOOC is generally free or low cost compared to other types of online distance learning. However, the government should develop a fund to provide other benefits and incentives for recruitment and retention of students. Firstly, the government needs to identify multiple channels of communication to reach potential participants of MOOC. With the incredibly high percentage of youth in Cambodia, the government should leverage social media networks to target younger individuals who might be more receptive to new technologies. This outreach could be done in partnership with formal educational institutions, employment agencies, and community organizations in Phnom Penh and other provinces. Moreover, the government should encourage a community support team that works on helping prospective and current MOOC participants with any other barriers to participation and successful completion of courses such as tutoring services. The group could function as both a learning and career center. This is a critical step because having such a community could help retain participants much longer. Instead of providing scholarships, the government can offer a rebate system in which students pay the fee upfront but could get reimbursement following course completion. This initiative could also be easily linked with private sector partners to encourage training and development by having companies offer sponsorships to their employees.

Strategic partnership with existing platforms: The creation of a local MOOC platform in Cambodia would be made difficult by both the financial feasibility and human capacity. Developing such a platform for the Cambodian market alone would require a great deal of time and effort. Even with foreign direct investment, it is not worthwhile to create a new platform for such a small population size. Strategically utilizing existing MOOC platforms is a much more practical option. For example, the government could partner with the Commonwealth of

Learning, an intergovernmental organization working collaboratively to promote the use of open learning and distance education knowledge, resources, and technologies (<https://www.col.org/>). Together, the two entities should foster a partnership to discuss effective adoption strategies of MOOC and best practices for developing countries. The Cambodian Government should ask to obtain data from MOOC platforms for a more thorough study. There is a potentially useful application of big data from MOOC platforms to provide insightful learner analytics. Moreover, the government could work with nongovernmental organizations in bringing relevant skills to facilitate cross-cultural learning opportunities.

Research and development: The government should consider their objectives for the education sector and rigorously evaluate the role of MOOC to achieve them. Relevant ministries such as the MoEYS, Ministry of Posts and Telecommunications, and Ministry of Labor and Vocational Training, and Ministry of Industry, Science, Technology, and Innovation should collaborate with research institutions to assess the impact of a blended approach to learning, applying MOOC alongside in-class methods. This will require the deployment of pre- and post-assessments of knowledge and skills, and comparisons of the outcomes of face-to-face or other online courses. This research should also study the motivations and cultural aspects of alternative learning strategies for future dialogues. These same ministries should collaborate with development partners such as UNDP, which has done extensive work in similar areas in many countries and could offer substantial support and experience. Having that as a foundation, MoEYS needs to develop an evidence-based approach to study the potential impacts, both positive and negative, of MOOC in the Cambodian context.

Moreover, improvement of English language capacity in Cambodia should be encouraged to achieve these recommendations. The government needs to strengthen foreign language capability while simultaneously improving the quality of Khmer language education. MoEYS could introduce second language options in primary schools to prepare students as early as possible. Bilingualism should be promoted and emphasized for employability. People increasingly need to be able to interact with the rest of the world. With connectivity and everything becoming global, it is almost impossible to engage without knowing English.

Lastly, there needs to be a bigger push for more digital infrastructure. Preparing the population to effectively immerse themselves in a digital economy is a must. However, digital infrastructure is not just about having mobile phones and nationwide internet coverage. Digital literacy matters greatly because it promotes student learning. The government should invest more in deepening ICT integration in the education system especially in secondary schools and more importantly, bridge the urban and rural divide. The government needs to equip schools with more computers and advanced programs and tools.

Conclusion

It is widely recognized that education plays an important role in the development of a country, especially in terms of human resources. A skilled workforce is the foundation of a strong digital economy, which Cambodia is striving to achieve. For a digital society to function well, it requires people to have certain capabilities and skills. However, Cambodia is still a developing country today, struggling to develop its workforce because the quality of its education system is yet to improve significantly by regional and global standards. With many jobs likely to be replaced by machines in the future of work, it is critical for Cambodia to better prepare its people for digital integration. Currently, Cambodia's education system is unfit to deliver the necessary reforms that will make Cambodia a knowledge-based society, particularly in the current era of technological advancement. This is exactly why the government should adopt more technological tools. Technology is here to stay, and it is best embraced. To continue the quest to reskill and upskill the young Cambodian population, mass open online courses present a unique opportunity. If the government adopts this new pedagogy more formally in the education system, MOOC has the potential to impact Cambodia positively. MOOC can provide access to quality learning and skill development opportunities at scale and affordably. The choice is apparent - the government should strategically integrate MOOC within the national quality assurance framework to enable the recognition and accreditation of qualifications on this platform. Together with existing pedagogies and program improvement initiatives, MOOC can bring Cambodia closer to its goal of becoming a developed country by 2050.

MOOC presents a strategic opportunity for government programs and education institutions to support and develop related local capacities, filling skills gaps more immediately and effectively. MOOC provides an affordable and flexible way to learn new skills, advance careers, and deliver quality educational experiences at scale. By integrating MOOC within national quality assurance frameworks, it allows for recognition and accreditation of qualifications. Adopting MOOC as a tool for workforce development has the potential to play a significant part in improving economic growth. Together with formal education, MOOC could help increase the quality of education in Cambodia in the longer run, making the country more competitive regionally and internationally.

References

- APPA. (2013). The rising cost of higher education. Retrieved from <https://files.eric.ed.gov/fulltext/ED547781.pdf>
- Askeroth, J.H., & Richardson, J.C. (2019). Instructor perceptions of quality learning in MOOCs they teach. *Online Learning*, 23(4), 135-159. doi:10.24059/olj.v23i4.2043
- Bruni, M., Luch, L., & Kuoch, S. (2013, November). Skills shortages and skills gaps in the Cambodian labour market: Evidence from employer skills needs survey. *International Labour Organization*. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_231862.pdf
- Bughin, J., Hazan, E., Lund, S., Dahstrom, P., Wiesinger, A. & Subramaniam, A. (2018, May 23). Skill shift: Automation and the future of the workforce. *McKinsey Global Institute*. Retrieved from <https://www.mckinsey.com/featured-insights/future-of-work/skill-shift-automation-and-the-future-of-the-workforce>
- Calonge, D.S. & Shah, M.A. (2016, September). MOOCs, graduate skills gaps, and employability: A qualitative systematic review of the literature. *International Review of Research in Open and Distributed Learning*. 17(5). Retrieved from <https://files.eric.ed.gov/fulltext/EJ1117375.pdf>
- Calonge, D.S., Shah, M.A., Riggs, K. & Connor, M. (2019, November). MOOCs and upskilling in Australia: A qualitative literature study. *Cogent Education*, 6(1), DOI: 10.1080/2331186X.2019.1687392
- Chen, C., Sok, P. and Sok, K. (2007). Benchmarking potential factors leading to education quality: A study of Cambodian higher education, *Quality Assurance in Education*, 15(2), 128-148. <https://doi.org/10.1108/09684880710748901>
- Driscoll, D. (2021, February 16). Preparing for the future of work: What can MOOCs do for you? *University of Virginia*. <https://blogs.darden.virginia.edu/executive-education/2021/02/16/preparing-for-the-future-of-work-what-can-moocs-do-for-you/> edX. (n.d.) About MOOCs. <https://www.mooc.org/>
- Garrido, M. & Koepke, L. (2016). *The advancing MOOCs for development initiative: An examination of MOOC usage for professional workforce development outcomes in Colombia, the Philippines, & South Africa*. University of Washington. Retrieved from https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/35647/Advancing_MOOCs_for_Development_Final_Report_2016_Final.pdf?sequence=4&isAllowed=y

- Gulatee, Y. & Nilsook, P. (2015, January). *MOOC's barriers and enables*. Retrieved from https://www.researchgate.net/publication/274066052_Mook%27s_Barriers_and_Enables
- Hamori, M. (2018). Can MOOCs solve your training problem? *Harvard Business Review*. <https://hbr.org/2018/01/can-moocs-solve-your-training-problem>
- Hang, N. (2018). *Education reform in Cambodia: Towards a knowledge-based society and shared Prosperity*. Sipar Publishing.
- Hollands, F.M. & Tirthali, D. (2014, May). *MOOCs: expectations and reality*. Columbia University. Retrieved from <https://files.eric.ed.gov/fulltext/ED547237.pdf>
- International Labour Organization. (2015, October 22). ILO welcomes Cambodian National Employment Policy. Retrieved from https://www.ilo.org/asia/media-centre/news/WCMS_418173/lang--en/index.htm
- Kovács-Ondrejko, O., Strack, R., Antebi, P., Gobernado, A., Lyle, E. (2019). Decoding global trends in upskilling and reskilling. *BCG*. <https://www.bcg.com/publications/2019/decoding-global-trends-upskilling-reskilling>
- Kumar, S., & Mishra, A. (2015) MOOCs: A new pedagogy of online digital learning. *International Journal of Scientific & Innovative Research Studies*. 3(4).
- Ministry of Education, Youth and Sport (MoEYS). (2019, June). *Education Strategic Plan 2019 – 2023*. Retrieved from https://drive.google.com/file/d/1kdtxQD1F4Pym1_h056hzoJqQHy7C7CqZ/view
- National Institute of Statistics (2020). *Report of Cambodia Socio-Economic Survey 2019/20. Ministry of Planning*. Retrieved from [https://www.nis.gov.kh/nis/CSSES/Final Report of Cambodia Socio-Economic Survey 2019-20_EN.pdf](https://www.nis.gov.kh/nis/CSSES/Final%20Report%20of%20Cambodia%20Socio-Economic%20Survey%202019-20_EN.pdf)
- Nova Southeast University (2020). Massive online open courses (MOOC): History of MOOC. Retrieved from <https://nsufl.libguides.com/c.php?g=112312&p=725994>
- Royal Government of Cambodia. (2018). *Rectangular Strategy for Growth, Employment, Equity and Efficiency: Building the Foundation toward Realizing the Cambodia Vision 2050 (Phase IV)*. Retrieved from <http://cnv.org.kh/wp-content/uploads/2012/10/Rectangular-Strategy-Phase-IV-of-the-Royal-Government-of-Cambodia-of-the-Sixth-Legislature-of-the-National-Assembly20182013.pdf>
- Schwab, K. (2019). The Global Competitiveness Report. *World Economic Forum*. Retrieved from http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

- Senase, J.R. (2019, November 14). Cambodia lagging in English proficiency index. *Khmer Times*. Retrieved from <https://www.khmertimeskh.com/659171/cambodia-lagging-in-english-proficiency-index/>
- The World Bank. (2021). Cambodia overview. The World Bank. <https://www.worldbank.org/en/country/cambodia/overview>
- Trucano, M. (2013, December 11). More about MOOCs and developing countries. *World Bank Blogs*. <https://blogs.worldbank.org/edutech/moocs-developing-countries>
- Ukthaun, P. (2020, November 13). Bridge the gap: Reshaping tomorrow for the young Cambodian workforce. *Southeast Asia Globe*. <https://southeastasiaglobe.com/industry-4-0-cambodian-workforce/>
- UNDP. (2020, September). Digital literacy for employability and entrepreneurship among Cambodian youth. Retrieved from <http://online.anyflip.com/qcffd/bhfx/mobile/index.html>
- UNDP Cambodia. (n.d.). Equipping Cambodia's youth for the arrival of industry 4.0. Retrieved from <https://www.kh.undp.org/content/cambodia/en/home/projects/equipping-cambodias-youth-for-the-arrival-of-industry-4-0.html>
- Warschauer, M. (2004). *Technology and social inclusion: Rethinking the digital divide*. The MIT Press.
- World Economic Forum. (2000). *The future of jobs report 2020*. Retrieved from http://www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf.



www.futureforum.asia



© Future Forum

Core Donor



In Partnership With

