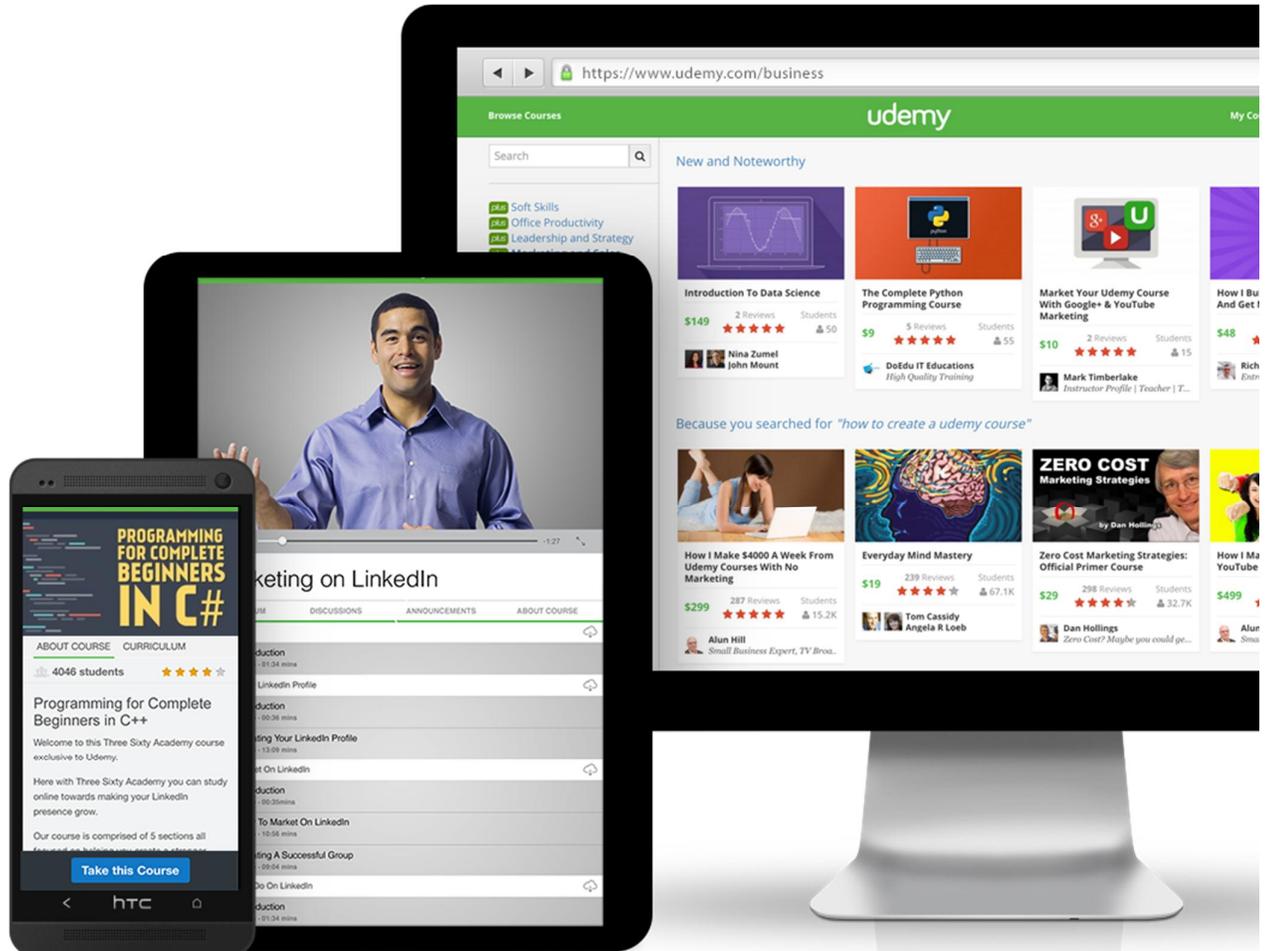


# Meeting the Upskilling Demands of the Singapore Workforce through MOOCs

A White Paper by  
Udemy and Dioworks

(Parts 1, 2 & 3)



## Table of Contents

Introduction	5
MOOCs as a Global Phenomenon	7
Who Takes MOOCs?	8
Looking to Online Courses to Upskill the Workforce	10
Case Study: Udemy	11
Brief Description of Udemy	12
 <b>Part 1: Demographics of Singapore Learners on Udemy</b>	 13
<i>Gender and Age</i>	
<i>Educational Qualifications</i>	
<i>Current Employment Status</i>	
<i>Income Bracket</i>	
 What Do the Demographic Data Mean?	 17
 <b>Part 2: Online Learning Behaviour of Udemy Users from Singapore</b>	 18
<i>Demographics of Survey Participants</i>	
<i>Online Learning Behaviour</i>	
<i>Engaging in Online Learning for     Work Application</i>	
 <b>Part 3: Growing the Online Learning Communities Globally</b>	 28
<i>From Users to Instructors</i>	
<i>The Community Activity Profile</i>	
<i>Sustainable Online Communities</i>	
 <b>References</b>	 37



**The 2016 White Paper on MOOCs** is a collaboration between Udemy and Dioworks Learning, Singapore, an innovation and e-design centre to drive e-learning globally.

The research behind the White Paper is conducted by the Udemy research and curriculum development teams and analysed and crafted by Dioworks Learning. The strong support from Udemy's teams is gratefully acknowledged and appreciated. To learn more about Udemy, visit [www.udemy.com](http://www.udemy.com); to learn more about Dioworks Learning, visit [www.dioworksgroup.com](http://www.dioworksgroup.com).

© 2016

Permission is granted under a Creative Commons Attribution 4.0 International License to replicate, copy, distribute, transmit, or adapt this report freely provided that attribution is provided as illustrated in the citation below. To view a copy of this license, visit [creativecommons.org/licenses/by/4.0](http://creativecommons.org/licenses/by/4.0)

#### **Citation**

Choy, M. & Tay, B. (2016). *Meeting the Upskilling Demands of the Singapore Workforce through MOOCs: A White Paper by Udemy and Dioworks Learning*. Singapore: Dioworks Learning

Email: [michael@dioworksgroup.com](mailto:michael@dioworksgroup.com)



---

## Purpose of the White Paper

**S**et in the context of current global shifts towards e-learning and Massive Open Courses (MOOCs), this white paper seeks to inform policies and business strategies concerning workforce upskilling and reskilling in Singapore with data collected from Udemy and other MOOC platform providers such as Coursera and edX.

To provide some comparative data, the demographical profiles, learning and purchasing behaviour of Singapore-based learners on Udemy are reviewed against the global learner profiles and behaviour when accessing MOOCs on other platform providers.

## Introduction

**T**he global learning landscape is undergoing a tectonic shift beginning with higher education (e.g. premier US universities) in 2011/12 leading the way in making their programmes available online, many of them without any fees attached. While distance and e-learning programmes are not new, internet access and speed, ease of use and the learning experience for these programmes seem to have improved dramatically in recent years. High resolution video clips can now be viewed with clarity and little lag, resulting in more options for curriculum designers to push innovative learning resources. Web2.0 has also contributed to more interactivity for the learners with many participating in collaborative projects and learning online.

There is also the element of learner readiness. Given that many of the digital natives are now in their twenties and thirties, there is a critical mass of learners who are not just ready to embrace, but expect technology-assisted learning as part of their upskilling process.

To meet their expectations, it is now almost incumbent of training providers and educational institutions to offer some rich media-infused learning when working with adult learners.

In addition to the shifts in learner mind-sets and learning technologies, workload intensity has also inched up over the years with more Singaporean workers chalking longer work days. Hence, finding time for training is a challenge. Due to manpower constraints to manage the daily operations, companies also find releasing workers for classroom training a concern.

This was raised in parliament in 2014 by the then Senior Minister of State for Manpower, Dr. Amy Khor:

*... many SMEs also gave feedback that the tight labour market made it difficult to send workers for training. WDA will thus enhance the ETS (Enterprise Training Scheme) to support e-learning and mobile learning ... This will provide more flexible training options for workers and ... reflect learning in a digital age.*

While the Singapore government is providing support for e-learning, the extent to which technology-assisted learning can play a part in alleviating the time constraint issue without compromising learning effectiveness is unclear. To develop the individual adult learner, it may be necessary to consider a blended approach (NMC Horizon Report, 2015) where classroom training and work-based learning will be needed to inculcate values and ethical considerations for a particular job role. The role of e-learning could be to infuse media-rich cognitive stimulus to broaden the contexts of learning and application for that same job role and beyond.

*...there is a critical mass of learners who are not just ready to embrace, but expect technology-assisted learning as part of their upskilling process.*

The share of resident employment for PMEs (Professionals, Managers, Executives) was 31.2% in 2012 (Ministry of Manpower, Singapore, 2012) and going forward, it is estimated that as high as 50% of the Singapore workforce will belong to the PME segment by 2020. The government recognises that technology usage can play a role in equipping this highly qualified and tech-savvy segment of the workforce with new skillsets.

This document will address the current e-learning phenomenon taking place globally and in Singapore especially pertaining to the advent of Massive Open Online Courses (MOOCs) and its use to upskill the workforce. The issue of how acquisition of work-related skills and knowledge critical for the professionalising of the individual worker to move up within the industry or move across industries can be facilitated by blended learning or e-learning through MOOCs will be discussed.

This report comprises the following sections:

**Introduction:** MOOCs as a Global Phenomenon

- Part 1:** Demographics of Singapore Learners on Udemy:  
*Who are These Learners?*
- Part 2:** Online Learning Behaviour of Learners from Singapore:  
*How do They Learn?*
- Part 3:** Online Learning Communities in Singapore and Other Countries:  
*How Different is Singapore Compared to Other Countries?*

The report begins by comparing the findings from different pieces of research literature on global MOOC platform providers, followed by findings from a case study on Singapore learners participating in Udemy courses. The data shown are collated from the literature, as well as surveys and interviews conducted by the Udemy learning analytics team from 2014 through 2016. The third part of the report locates the various learning communities in eleven countries based on their Community Activity Profiles (CAP).

## MOOCs as a Global Phenomenon

Interestingly, 2012 was declared by New York Times to be the “Year of the MOOCs”. Since then, the number of MOOCs (Massive Online Open Course) and online courses offered by experts, training providers, universities and institutes has been growing exponentially. These online courses can be fee-paying or free and rely on various business models to fund the development and delivery channels. A report by Allen and Seaman (2014) detailing the survey findings involving more than 4,700 US colleges and universities, estimates about 412,000 more US students enrolled in an online course in fall 2012 than the year before. The total online enrollment by US students reached 7.1 million students then. See Figure 1. below.

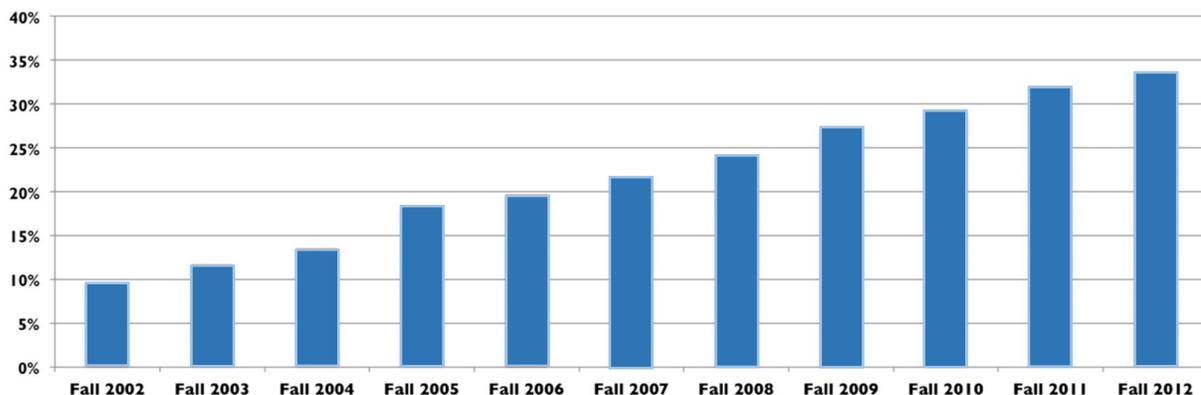
While the figure shows rising numbers of student enrolment in the United States up till 2012, there are indications that this trend is continuing although at a slower rate even up till the present. Local universities such as Nanyang Technological University (NTU) and National University of Singapore have embarked on developing their own online learning programmes. NTU plans to develop up to 1500 online courses by 2020 to drive their

‘flipped classroom’ pedagogical approach (NTU, 2015) in addition to the MOOCs they already have online.

*Interestingly, 2012 was declared by New York Times to be the “Year of the MOOCs”*

According to Sandler Research (2014), the global market for MOOCs will continue to grow at a compound annual growth rate of 56.61 percent over the period 2014-2018, based on data from key training providers and industry stakeholders such as Udemy, Coursera, edX, Udacity, Apple, Codecademy, FutureLearn, Iversity and Khan Academy.

The researchers found that growth of the global MOOC market is driven by several factors, primarily the rising cost of education and training and a better quality of education through MOOCs. On the other hand, the study also listed the lack of college credits or certifications in some MOOCs as possible constraining factors to the growth of the MOOC market.



**Figure 1. Rising Online Enrolment of Students in the United States as a Percentage of Total Student Enrolment in Traditional University Courses**