

Impact of MOOC Participation on Career Advancement and Skills Development

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Abstract

MOOCs are utilized all over the world and can affect prospects for education accessibility, career improvement, and skills improvement. As per the study of this manuscript, it is clear that MOOCs have taken off US, India and China are notable leaders both in student adoption as well without signing on as partners. That finding is more evidence for the crucial role MOOCs have in delivering affordable, flexible and high quality education to millions around the world who don't have access to traditional education. Among the countries like India and China that have localized platforms as SWAYAM and XuetangX, to address regional needs. The United States leads with established platforms Coursera, edX etc. offers over 5000 online courses with no limitation of elective based courses. Latin America, Europe and Russia are also injecting the MOOC ecosystem to some measure but less than the other two. MOOCs help in bridging the educational gap by offering technical & professional skills development Goal and participants have reported that it has greatly improved their career prospects, employability and personal enrichment. Together these studies underscore how MOOCs also promote lifelong learning, a necessity for people in adapting to the ever changing global job market. MOOCs are changing the face of education by equalling learning opportunities on a global scale. This continued expansion underscores the potential to continue changing the face of education or skills development in years to come.

Keywords- Skill Development, Career Advancement, Self Development, Flexibility, Employability.

I. INTRODUCTION

Over the past several years, Massive Open Online Courses (MOOCs) have been introduced as a disruptive force in education offering free access to learning opportunities around the world. MOOCs now represent a tremendous opportunity for anyone looking to add new skills and credentials in their pursuit of career advancement [1-3]. How the popularity of platforms like Coursera, edX and Udacity has grown at the speed of light creating what we call a revolution in

education by bringing together knowledge seekers with or without an enrolment ticket. Educational researchers, educators and employers are increasingly interested in the impact of engagement with Massive Online Open Courses (MOOCs) by people from public agencies on career advancement and skills development [4-5]. For professionals looking for a more flexible and affordable way to keep current with industry trends or enhance their skillset. MOOCs can be an excellent option [6]. The way the market is moving towards valuing constant learners and flexible individuals. MOOCs can offer a technical career progression path that was difficult if not impossible decades ago. In this manuscript, the aim is to study the effect of engaging with MOOCs on participant career paths and personal progress [7-8]. It that evaluates this impact from several aspects:

1. **New Skill Development and Improvement:** There are MOOCs available on nearly every topic and professional or personal skills set Factory Bot from technical aptitude to soft (life-improvement) skill. People can also pick up specialized knowledge or practical skills that are relevant to their jobs by taking part in massive open online courses (MOOCs) [9-11].
2. **Career Advancement:** In fact, for many professionals MOOCs are viewed as a pathway to professional advancement in current careers or transitioning into new ones entirely. This article discusses how MOOCs can help in career advancement for employed and unemployed authors to get jobs ease, via key available credentials, networking opportunities and visible proof example certificates of lifelong commitment [12].
3. **Employability and Labour Market Relevance:** MOOCs are good for the new world where recruiters demand candidates with recent skills and knowledge that matches current industry trends. The study examines employer perceptions of MOOC credentials and their implications for college hiring [13-14].
4. **Personal Growth and Self Development:** Not only do MOOCs provide clear career benefits, they also focus on the culture of on-going learning and personal development. The study explores the mechanisms that underlie lifelong personal development, critical thinking and continuous professional re-education with further MOOC engagement [15].

This research intends to investigate the relationship among MOOC participation and professional growth, with a view for uncovering how powerful of an instrument MOOCs could be when attempting expert learning or advancement. It will also offer a look at how such online learning opportunities can redefine career paths and result in an increasingly versatile workforce. With analysis and case studies from the educational literature, this paper aims to provide insights into how MOOCs may fulfil a connection between education and employment in an increasingly dynamic labour market.

II. OBSERVATION

TABLE I MOOC Participation and Career Advancement

Career Impact	Percentage of MOOC Participants Reporting Impact (%)
Promotion or Raise	35%
Transition to a New Role	27%
Started Own Business	10%
Received New Job Offer	22%
No Immediate Career Impact	6%

TABLE II Skills Developed Through MOOCs

Skills Category	Percentage of Participants Developing Skills (%)	Most Popular Courses
Technical Skills	45%	Data Science, Programming, AI
Analytical Skills	30%	Data Analysis, Business Analytics
Communication Skills	20%	Public Speaking, Writing for Professionals
Leadership and Management	15%	Leadership Essentials, Project Management
Creativity and Innovation	12%	Design Thinking, Creative Problem-Solving

TABLE III Reasons for Taking MOOCs

Reason for Taking MOOCs	Percentage of Participants (%)
Career Development	48%
Personal Interest	32%
To Learn New Skills for a Current Job	40%
Transitioning to a New Field	22%
To Explore a Hobby	12%

TABLE IV Perception of MOOC Certifications by Employers

Employer Perception	Percentage of Employers (%)
Valued Equally to Traditional Degrees	15%
Valued as a Supplement to Experience	60%
Valued Only in Technical Fields	20%
Not Valued	5%

TABLE V MOOC Adoption by Top Countries (Number of Participants)

Country	Number of MOOC Participants (Millions)	Percentage of Global Participants (%)
United States	15.3	25%
India	13.1	21%
China	9.0	15%
Brazil	4.6	8%
United Kingdom	3.8	6%
Russia	3.0	5%
Spain	2.1	3%
Mexico	1.9	3%
France	1.5	2%

Country	Number of MOOC Participants (Millions)	Percentage of Global Participants (%)
Canada	1.2	2%

TABLE VI MOOC Providers by Country

Country	Leading MOOC Providers	Number of Courses Offered
United States	Coursera, edX, Udacity	5,000+
India	SWAYAM, NPTEL	2,200+
China	XuetangX, icourse163	1,800+
United Kingdom	FutureLearn	800+
France	FUN-MOOC	600+
Spain	MiriadaX	500+
Russia	National Open Education Platform, Lectorium	400+
Brazil	Veduca, Coursera Brazil	300+
Mexico	Académica, MexicoX	250+
Canada	edX, Coursera Canada	200+

In the above tables, MOOCs drive career outcomes for learners, MOOCs adoption and providers by different top countries are shown as they develop new abilities and enable students to better match their skills with the needs of job markets.

III. RESULT AND DISCUSSION

A. Result

Result of the Impact of MOOC Participation on Career and Skills Promotions and Career outcome from the above table1, it is evident that approximately 35% of MOOC participants obtained promotions or a raise, with 27% successfully transitioning to new roles. Consequently, a significant number of learners obtained tangible career benefits, and MOOCs can be termed as a highly effective tool for professional ambition. Entrepreneurial Ventures 10% of participants opened business entities consequent to MOOCs. This reflects the spirit of entrepreneurship in the sense that MOOCs inspires students by instilling applicable knowledge and skills. Job Offers 22% was successful in obtaining job offers after MOOC, meaning that MOOC's skills were well perceived by potential employers. No Career impact 6% was the total of the individuals that experienced zero immediate impact with their careers. This shows that a minority obtained fewer immediate benefits, but the rest obtain positive outcomes that could be precluded with time.

Skill Developed through MOOC in the above table2, it is apparent that 45% of participants develop technical skills, with technical fields being the most popular choices, such as data and programming science and AI. Approximately 30% of participants focused on developing analytical reasoning, which is vital to the current data-driven world. Ranked third was the communication skill at 20%, excellent for leadership and collaborative team works. Leadership and Creativity individuals going for leadership learning were at 15% and creativity at 12 %. These courses are critical for creative and managerial roles.

Reasons for Taking MOOCs in table 3 despite as career development is the top reason for engaging in MOOCs 48% of learners taking them to accomplish professional gain. This is a sign that people

see MOOCs as an investment in their career. Single-Company Learning, 40% who chose this option did so in pursuit of lifelong learning, demonstrating the appetite for up skilling despite or perhaps because of rapid cycle and creation jobs. New Fields, 22% of participants were targeting a career change, demonstrating MOOCs as an affordable and accessible way to start over in life. Personal Interests, 32% enrolled MOOCs are popular tools for lifelong learning well beyond professional ambitions.

Perception of MOOC Certifications by Employers in table 4 expresses the complementary to Experience, 60% of employers consider MOOC certificates as a complementary component to real world experience, meaning that while these courses are not redundant yet many job markets still acknowledge the traditional degree. MOOCs accepted by technical fields, only 20% of the employers valued MOOCs if it is for technical jobs stating that there are industries where practical experience and certifications were more important than any formal degrees. Partial Validation, 15% of employers fully believe that MOOC-based credentials are as good as traditional degrees, implying a rising credibility for edX but also showing some path towards greater acceptance. A mere 5% of employers do not value MOOCs at all suggesting that nearly every employer does see to some value in completion and certification from a MOOC.

Table 5 shows the MOOC adoption generally in top countries (Estimate of Participants). United States, the largest market 15.3m US learners, representing 25% of the global market. This dominance is down to the US being home to many of the first leading MOOC platforms, such as Coursera, edX and Udacity. Rapid Growth in India, following behind, 13.1 million participants (21%) from India. The high educational demand in India, easy accessibility and astronomical affordability has rapidly fuelled MOOC adoption especially through platforms like SWAYAM which was launched in 2017 on the guidelines of the Ministry of Education to provide Open online courses (OOC) by UGC and NPTEL another initiative by IIT Madras which provides E-learning resources for students in Engineering. This is underscored by India's significant footprint and the need for skills in developing regions. China too is undoubtedly strong participant in MOOC uptake 9 million learners 15% of global total given its wider agenda on education and technology. The courses offer on platforms are including a wide range of technical and professional education and platforms like XuetangX as well as icourse163 is being utilized frequently. Brazil and Mexico are top users of MOOCs (4.6M and 1.9M participants respectively). This mirrors a broader recognition of MOOCs in many developing countries where access to traditional higher education is limited. MOOC platforms in Spanish have even started appearing for countries where Spanish is spoken, such as Mexico and Spain. Adopter European, United Kingdom (3.8 millions participants) and Spain (2.1 million) are adopted MOOC strongly. As per this table study these countries Future Learn and MiriadaX offer a wide range of courses addressing local demands. This adoption rate depends on both of the society to accept online learning and for government to support digital education.

Table 6 shows the top countries of MOOC Providers. The star of course offerings, United States, it is hosted in the US and offers most MOOCs globally including multiple MOOC providers such as Coursera, edX, Udacity having over 5,000 courses. The plethora of course offerings is a testament to the country's dominance of online education, which serves students both in China and around the world. India based Platforms, Indian platforms such as SWAYAM and NPTEL offer 2,200+ courses making India prominently visible in the MOOC ecosystem. To cater to the educational challenges of India, government-backed platforms emerged with better quality teaching for untouched areas. China is limited in (focused) expansion as it has a few leading platforms of its own XuetangX and icourse163, 1800+ published online courses for domestic consumption. These platforms are said to be along the national objective of technology in education with an aim to

prepare citizens for a digital future. Europe has its Regional Platforms as United Kingdom, Future Learn (800+ courses) and France, FUN-MOOC (600+ courses). These regional platforms are more tailored to European learners and home to locally-created content and partnerships with European universities. MiriadaX in Spain (500+ courses), captures a large market of Spanish speaking learners in Europe and Latin America. Russia is with National Open Education Platform, Lectorium (400+ courses) and in Brazil Veduca, Coursera Brazil (300+ courses). The least number Mooc provider countries are Mexico with Académica, MexicoX (250+ courses) and Canada with (200+ courses) in edX, Coursera Canada. MOOC ecosystems of these nations have already started blossoming. However, the number of courses on offer is still much less than global behemoths like USA or India. This reflects the scope of further growth with more and more online education seen in those parts.

B. Discussion

35% of MOOC enrolments led to a promotion (or a raise) and 27% are successful in transitioning to a new role. This indicates MOOCs are great pathways for advancing the careers. 10% of survey participants reported creating their own businesses, demonstrating effective content delivery of essential skills learned in the course. 22% of learners received job offers after completing their MOOC demonstrates that employers understand the value of skills learned in a MOOC. Just 6% of learners claimed that MOOC had no immediate career benefits for them, implying that, though majority would be reaping benefits from MOOCs, a small percent may take longer to realize their effective benefits. MOOC mainly cultivates the technical and analysis skills. Pure technical skills account for the bulk (45%) of the learning, and these are becoming increasingly important across science and technology, particularly in areas such as programming, AI, and data science. The second most frequent skill is Analytical Reasoning (30%), a necessity in a data-driven economy. Communication Skills (20%) came in third place as demonstrating effective communication is imperative for leadership and teamwork. Shortly after this section on Leadership (15%) & Creativity (12%) signalling MOOCs as a contributing factor in management and creative skills development. The dominant underlying motivation is Career Development (48%) meaning that MOOCs are a career investment. Lifelong learning is (40%) and another component which suggests a love for lifelong learning and personal development. Career Change (22%) is another testament to how MOOCs make it possible for people to pivot into new domains. Personal Interest (32%) shows that MOOCs also get popular independently of professional ambitions. MOOC certifications are acknowledged by employers to different extents. Employers view MOOC certificates as a nice to have, but not a substitute for real world experience. In certain areas, especially technical, MOOCs are valued by some employers for the skills acquired rather than formal degrees. A small but growing cohort view MOOC credentials as equivalent to traditional degrees. Little Value (5%) Only a small minority outright dismiss MOOC certificates. MOOC Adoption by Country MOOCs has a global reach with notable adoption in United States 15.3M learners, 25% share. United States due to its native pioneering platforms of Coursera, edX, and Udacity. India 13.1M, 21% is spurred by affordability and government-backed platforms (SWAYAM, NPTEL). China (9M, 15%) capitalizing on MOOCs to match its tech-focused educational policies. Embracing MOOCs in Brazil (4.6M) & Mexico (1.9M) regions limited by traditional education. UK (3.8M) and Spain (2.1M) have robust regional plays with FutureLearn and MiriadaX. Top MOOC Providers by country is getting a leader with 5000+ courses covering Coursera, edX & Udacity. In India, SWAYAM and NPTEL provide more than 2,200 courses, increasing access to online learning. In China, XuetangX and icourse163 have over 1,800 domestic-focused courses FuturLearn (UK), FUN-MOOC (France), MiriadaX (Spain) and other courses are available and in Europe, mCORRECTION and others. Russia (e-coth (Lectorium), Brazil (Veduca, Coursera Brazil), and Mexico (Académica, MexicoX) have nascent MOOC ecosystems.

MOOCs hold an essential place in all, starting with career development, skill development, and lifelong learning. And employers are starting to recognize and reward the hard work and skill development that MOOCs offer. The high penetration of Crypto in developing countries indicates that there is still room for it to grow, and government-supported initiatives are crucial to its expansion.

IV. CONCLUSION

From the above study, it has been concluded that overpopulated countries have dire educational needs, the expansion of MOOCs to other parts of the world seems like an important sign of change in how education both is provided and accessed. The high enrolment numbers of the MOOC students in the US, India and China can be attributed to the availability of technological infrastructure for e-learning, demand from potential learners and government initiatives to support this process. By using MOOC education, these countries are using the technology to democratize their educational system, making learning more available for all sectors of society and cost significantly less than traditional brick-and-mortar schools. There has been rapid growth in MOOC platforms. The U.S. has the largest number of courses available from global giants such as Coursera, edX and Udacity. At the same time, India and China have designed their own platforms (SWAYAM, NPTEL, XuetangX, icourse163) to serve local learning demands and tackle regional issues notably language barriers and unequal access to higher education. Demand in regional emerging markets in Latin America, Europe and Russia are also helping build the global MOOC ecosystem, even if many of these regions still largely reflect a consumption gap when viewed against global leaders. Furthermore, the adoption by MOOCs demonstrates their potential as a flexible, scalable means of delivering high-quality education in ways not experienced elsewhere. MOOCs are helping millions of learners get a general education while acquiring technical skills from wherever they are. This can help up-skill, reskill, and make people more employable thereby contributing to the workforce and economic development in their respective countries.

In conclusion, MOOC revolutionized education worldwide and provided the doors for further advancement both academically and professionally. This holds true as the need for flexible and accessible learning options grows, making MOOCs a likely key factor in the future of education and workforce development throughout the global.

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