Independent Research Proposal

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Abstract—**Online Education has been present for many years, but its role in educating people of all demographics and geographies has moved center stage. Perceptions regarding the potential impact of Online Education, specifically *Massive Open Online Courses* (MOOCs), in both educating students and training people for employment opportunities has changed substantially over time, and research shows mixed results, with no clear consensus. The aim of this paper is to briefly examine changes between 1996 and 2017, and investigate which ventures, laws or projects in this domain have had a substantial impact on educational outcomes and why. The paper would end with attempting to provide insights regarding the industry's present direction, main challenges and expectations for the future.**

I. ANALYSIS PLAN

FOR years, Online Education was seen by some as simply a complement to traditional brick-and-mortar schooling, and by others as its disruptor and eventual successor. A 2008 Meta-Analysis and Review of Online Learning Studies done by the U.S. Department of Education found online learning to be one of the fastest growing trends in educational uses of technology, with K-12 enrollment in technology-based distance education growing 65% between 2003 and 2005, and over one million students enrolled in the 2007-08 school year [1]. Four years later, we witnessed the founding of Coursera by two Stanford University computer scientists, Andrew Ng and Daphne Koller, and EdX, a non-profit MOOC provider founded in May 2012 by Harvard University and the Massachusetts Institute of Technology [2]. While experimental, optimism was very evident - the potential of giving access to higher education to people around the globe was one of the many motivations behind these ventures.

Nevertheless, there has been resistance to these innovations. It has been seen by many in the educational establishment as a threat: with rising tuitions in higher education institutions in the U.S., propelled by increasing non-classroom costs, the entire sector was considered ripe for disruption [3][4]. While some bureaucrats and faculty argued that MOOCs risked *"compromising quality"*, benefits in terms of cost reduction and expanded access were reason enough for states such as California to move forward with legislation such as SB 520, which introduced MOOCS into the State's public higher education system [5].

I would like to focus my analysis on success metrics in this domain, were we stand on more ambiguous ground. Research from 2013 done by University of Pennsylvania's Graduate School of Education, an analysis of enrolled students in 16 First-Generation Penn Coursera courses, found that despite a high volume of applications, few were active users, and found low engagement after 1-2 weeks, with completion rates averaging 4% across all courses. The student population was also found to be particularly un-diverse, mainly, American, educated, male and wealthy, raising doubts on whether the benefits of MOOCs were truly being spread widely as opposed to merely expanding educational

achievement gaps [6]. In response, Coursera and Udacity have insisted that high drop-out rates reflect the differing expectations of consumers of free products, who can examine course content at no personal cost. Both MOOC providers studied drop-out rates for those students who start with the stated intention of finishing, and found that *"the vast majority of them complete the courses"* [7].

One could argue that it might still be too early to declare the MOOC experiments a failure. Given the scalability of Online Education, small percentages can still account for very large numbers. So while recent disappointments from unmet high expectations in recent years should not be ignored, it would be useful to get an understanding of what good achievement metrics would look like: if, for example, over 20% of students with intent to complete a course do so, under what contexts would we consider this a success or a failure? In terms of reaching certain completion thresholds, what can existing literature tell us regarding factors influencing this rate, and what additional factors and incentives should be considered for future examination and implementation?

II. DATA

The data used will mainly come from secondary research originating from a broad array of sources, from news articles to academic papers, favoring the latter. Repositories of studies will also be examined for useful insights.

III. CONCLUSION

While new research questions could arise in the coming weeks, I believe this analysis plan provides a good starting point. Research of MOOC success metrics would not be robust without appropriate context, and it is clear that the expectations of investors, policy makers and the media in recent years

was unreasonably high. In a 2013 Op-ed, Daniel Greenstein, the current Director of Postsecondary Success at Bill and Melinda Gates Foundation, said that to him, *"(...) at least with respect to MOOCs, [we] have skipped an important step (...) We've jumped right into the 'chase' without much of a discussion about what problems they could help us to solve. We have skipped the big picture of where higher ed is going and where we want to be in 10 or 20 years"* [8]. Change has been undoubtedly quick: many MOOCs have been bundled into longer modules and are achieving higher recognition by both Universities and Employers, far surpassing MOOC company founders' initial expectations [9]. But skepticism also remains high, and setting realistic expectations and benchmarks of the highest possible objectivity will be an integral component in the future success of MOOCs.

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