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WHITHER THE MOOC?

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WHITHER THE MOOC? A HOME AMONG THE HYBRIDS?

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ABSTRACT

This paper is written to encourage debate on MOOCs in higher education in general and in business schools in particular. It reports the results of a small study of a MOOC being used to supplement an MBA class in Information Systems Management. Although the sample size is small and there are obvious limitations as to what can be drawn from the data, the study does confirm a previous study and provides some interesting results, particularly around the desire of MBA students to take classes this way. It ends with a discussion around recent developments and calls for more research and involvement by academics.

Keywords

Online Education, MOOCs, Education Technology, Teaching

INTRODUCTION

There have been few events in education in recent times that have attracted as much attention and hype as the Massive Open Online Course (MOOC), perhaps best exemplified by the New York Times:

> "[there is a]..... *budding revolution in global online higher education. Nothing has more potential to lift more people out of poverty — by providing them an affordable education to get a job or improve in the job they have. Nothing has more potential to unlock a billion more brains to solve the world's biggest problems. And nothing has more potential to enable us to reimagine higher education than the massive open online course, or MOOC....."*
>
> (Friedman, January 2013)

Against that (and again in the New York Times)

> *……..early results for such large-scale courses are disappointing, forcing a rethinking of how college instruction can best use the Internet.*
>
> (Lewin, December 2013)

Whither the MOOC? Will it wither on the vine and eventually die or develop into a product that will be a continuing part of the provision of education? This paper reports on the use of a MOOC in an MBA course, used to supplement the course material and replace a portion of the scheduled classroom material, rather than as a replacement for the whole course.

BACKGROUND

Learning is enjoying increased emphasis in today's globalized world (Zhang et al. 2003; Urdan & Weggen 2000). MOOCs are not the first occurrences of either a potential disruptive technology or distance learning. It is almost certain they will not be the last of either one. Early forms of distance learning sent printed materials through the mail, subsequently enhanced this with radio and eventually with television. This allowed participants to watch demonstrations and see the professor, but the problem with educational television was that there was no way to evaluate the students' work (Nasseh, 1997). The format of the materials changed in the late 20th century with CDs being the medium of the day, but in time a more recent technology, the internet, took over, allowing computers and the internet to be used for students to take online courses while enrolled at a college or university. In 2002 MIT began to place much of its course material on the internet for all use in a project called Open Course Ware (Vest 2002). In the Fall of 2011, a Stanford professor enrolled over 100 000 students in his open class.

These developments helped establish the playing field for the development of the current phenomenon of distance learning, MOOCs. Coursera now claims over 107 partner universities worldwide (up from 67 a year ago) and almost 6 million "courserans" – students who have enrolled in at least one course. edX, the MIT Open Course Ware venture with Harvard and 26 other leading universities from around the world (10 a year ago) offers large numbers of courses as does Udacity, the other major player (Cooper and Sahami 2013). And the business world, when considering investment via Wall Street, is looking for "a business model" (Korn and Levitz 2013). Against this, completion rates are astonishingly low – the average is around 5% (Press 2013).

Many believe that e-learning is not for everyone. Sharma et al (2007) in conducting a study of corporate e-learning suggested that organizations might be able to identify "at-risk" learners who may have difficulty succeeding in e-learning, by measuring the learners' self-regulation (discipline, time management, etc. (Britton and Tesser 1991)). By identifying these learners, organizations may target such learners and encourage them to make use of self-regulation, or in the context of a MOOC, it is conjectured that some will be more satisfied with the experience than others. Alternatively, learners who are aware of the various self-regulatory attributes that lead to better performance may take remedial steps to ensure they employ appropriate strategies. Furthermore, e-learners might recognize that self-regulation in traditional face-to-face learning can be adapted to e-learning. Sharma et al went on to discuss "help seeking" – the way in which students sought help when confronted with a problem – did they prefer to gain assistance from manuals, references, online resources, etc., or ask classmates and the instructor for assistance?

Computing and internet technologies may also impact the satisfaction of e-learning students when enrolled in a MOOC. Those experiencing frustrations or anxiety with e-learning courses may be those who are less comfortable with computer technology (Hong, Lai & Holton 2003). Furthermore, as learners focus on using the technology, they may ignore important self-regulation strategies, which may have a detrimental impact on performance levels. Thus, in an e-learning context, computer self-efficacy which is an "individuals' beliefs in their ability to use computers" (Spence 2004) may affect satisfaction with the course.

"Online learners, like customers, are satisfied when they receive responsive, timely, and personalized services and support, along with high-quality learning outcomes" (Lorenzo and Moore, 2002). This has taken on an increased focus as the number of online classes has proliferated in recent years. Quality is a concern when considering online education – approaches are evolving, it is converging or competing with campus based classes and it is becoming seen as a significant factor in global trade. Factors influencing this include quality management, faculty development, online course design, and pedagogy (Lee 2004, Chao et al 2010). Lee also suggests that quality is directly linked to satisfaction. Put another way, instructional quality is related to positive academic outcomes. This suggests that quality via satisfaction will have an effect on the student's desire to continue to take classes in this way (Artino 2008). MOOCs have the possibility of developing new pedagogy and providing students with better and more varied teaching that instructors could hope to develop by themselves (Daniel, 2012). As in a more traditional environment, quality in a MOOC potentially comes from the course materials and their preparation, the excellence of the presentation of these materials, the standing of the instructor and the institution, and the cost.

This study draws on a previously published research model (Treadway, Ayala and Dick, 2013) as depicted in Figure 1. Content was assessed as comprising quality, study materials, the standing of the professor and cost; Accreditation as recognition and college credit; Learning Style based on self-discipline, time management and help-seeking traits; and technology as to its acceptability to the student.

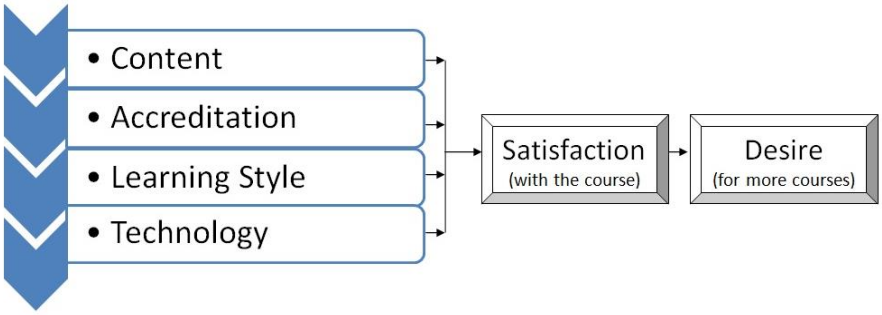

Figure 1 – Research Model

The principal objectives of this small study were to determine if satisfaction with the MOOC was largely driven by the factors outlined in the model and whether satisfaction influenced a desire to take more classes this way.

STUDY ENVIRONMENT

While this work is very preliminary and relates to data gathered from a small group of students the authors believe that some understanding of student expectations and demands can be gleaned from it and that the findings may prove useful to university administrations who may be considering the use of such technology. As part of an Information Systems Management class in an MBA program, the students were required to participate in a MOOC running for part of the scheduled class. Although they did not receive direct credit for their participation, work they completed as part of the MOOC was directly relevant to an assessed assignment task. It is perhaps worth noting that none of the students objected to being asked to do this – they were interested in the new technology.

The MOOC was directly relevant to the course material and would normally have taken up perhaps 2 weeks of a 15 week course. It was developed and run by a leading academic in the IS field, one who had written a textbook on the topic. The way the MOOC ran was not dissimilar to the scheduled MBA class with a short presentation from the academic then class discussions relating to the material covered.

The data on which this paper is based was collected via a previously validated and tested survey instrument. The class consisted of 23 students, all of whom completed the survey and all responses were usable. 43% were female, 78% were under 30 years of age, 30% had children, almost all had some work experience – over half had more than 4 years, for 30% this was their first experience with an online class and all rated their computer and internet technology skills as at last passable. In other words, this was a fairly typical MBA class.

Another factor relating to these respondents is that the university where they are enrolled in the MBA program also offers an online based MBA – therefore having made the choice to enroll in the regular MBA, these students might be expected to prefer the face-to-face classroom environment to that of an online one.

ANALYSIS

The essential predictors of "satisfaction" with the Coursera course were the amount that the students learnt (E47 – "I learnt a lot from this course") and whether or not they liked learning in this way (D27 – "This way of learning suits my learning style"). Table 1 gives the R^2 values, significant at the .001 level, from SPSS step-wise linear regression:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.816[a]	.665	.649	.463
2	.876[b]	.768	.745	.395

a. Predictors: (Constant), E47

b. Predictors: (Constant), E47, D27

Table 1

In addition "satisfaction" with the MOOC experience was an indicator of the desire to take more classes this way. Table 2 gives the R^2 value, significant at the .05 level, from the regression:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.514[a]	.265	.230	1.047

a. Predictors: (Constant), F59

Table 2

These results give some support to the research model.

To give a clearer picture, Figures 2 and 3 below show the distribution (on a 5 point scale from 1, strongly disagree to 5, strongly agree) of the variables driving 'satisfaction".

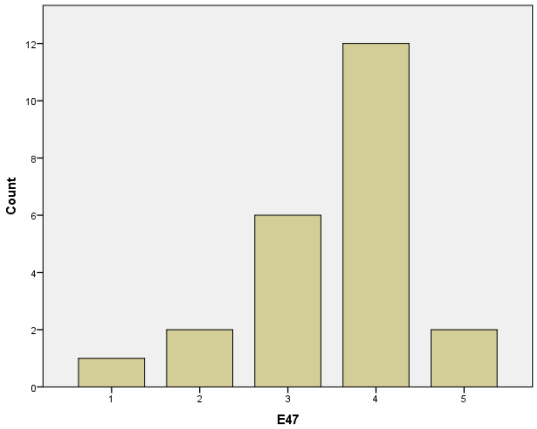

Figure 2 – I learnt a lot from this course

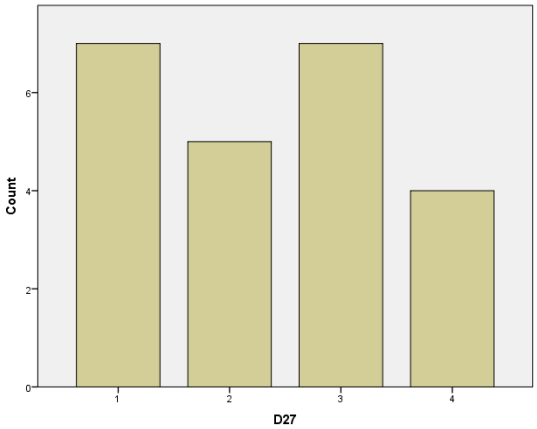

Figure 3 – This way of learning suits my learning style

In response to a question as to the number of MOOCs students indicated they would like to take as part of their MBA, the results were mixed – see Figure 4.

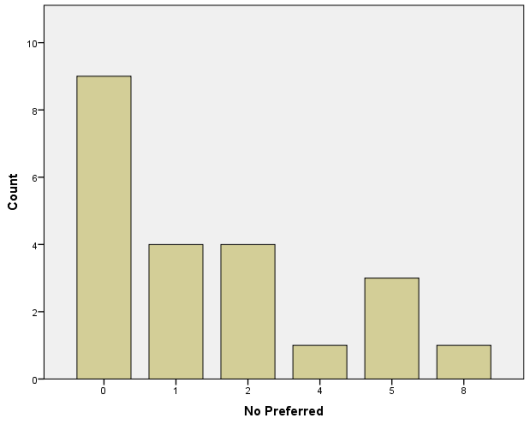

Figure 4 – No. of MOOCs preferred

While the largest number wanted no more of this, 40% wanted two or more MOOCs in their program and this from a group who had chosen a face to face program over an online one. When examining the demographics of those who preferred 2 or more MOOCs as part of their MBA program (and with the caveat of the small sample size) it is noted that females, who made up 43% of the overall sample, account for 67% of the this group – in addition half of them have children living at home.

DISCUSSION

Although the sample size is small and there are clear limitations around one course, one MOOC, one university, there are some interesting suggestions in the data and the subsequent analysis. It should be noted too, that the results suggesting satisfaction is driven by course quality and learning style and that in turn, satisfaction drives the desire to take more classes this way reflect the results of an earlier, similar study (Treadway et al 2013). The somewhat nebulous term "quality" was operationalized in the survey by whether it was perceived as being up to the standard expected for an MBA class, whether it was seen as "worthwhile" and whether the knowledge and skills imparted were seen as useful. This supports the earlier work by Lee (2004) suggesting that quality is directly linked to satisfaction (as might well be expected of course). Nevertheless, it

also suggests that the students were discerning in their evaluations and this in itself no doubt has implications for future offerings. As the migration to online study for graduate work continues its substantial movement (AACSB data indicates 8.9% of accredited schools offer online undergraduate programs and 23.2% of accredited graduate schools offer online programs, (Grossman, 2013)) this research takes on particular importance for business schools.

Possibly most interesting (and perhaps the finding with the most important implications) is the desire of the students to take more classes this way. Students continue to struggle with money and burgeoning debt problems (Grossman, 2013), with less than half graduating six years, while for employers, finding qualified applicants' remains difficult. Perhaps MOOCs may provide some of the answer. The desire to take more classes this way seems to hold true for many even when satisfaction with the course is not ideal. A closer review of the data indicated that while some students were lukewarm on satisfaction with the Coursera component, they did indicate a desire to take at least some such courses. It is possible that there was a degree of novelty involved and the topic of the MOOC being directly relevant to the course content and assessment. It is also possible that the students (in this case most held at least part-time jobs) were looking for ways to avoid the regular drag of attending class after a day's work and were willing to put up with a less than optimal solution to achieving their educational objectives. This by itself raises a question that researchers of online education have been struggling with for some time in trying to assess "how good" the courses need to be – perhaps it is not question of "how good" but "is it good enough?". As an example, consider the online human resources related courses in workplace practices and ethics that faculty and staff in the University System of Georgia are required to take annually – most would agree that they are not a fun way to spend a portion of a day (when compared say, to taking a few hours to physically attend a training course) but are they sufficient? Perhaps MOOCs may be able to capitalize on this feeling among students; this may have particular importance for courses students do not see as particularly relevant to them, but need to complete them to graduate.

The seeming attraction of the classes to a particular demographic (females) clearly needs more work with a larger sample and a focus on other issues that may be influencing them. Nevertheless, there is an indication in the data that learning style is perhaps not the most significant issue affecting the desire to take more classes this way. There is an indication too that MOOCs may appeal to the well qualified to study this way – but a separate survey from the University of Pennsylvania (in Lewin, 2013) released recently found that about 80 percent of those taking the university's MOOCs had already earned a degree of some kind. The individuals the MOOC revolution was supposed to help the most – those without access to higher education in developing countries – are underrepresented among the early adopters. Perhaps the MOOC is not an automatic replacement for Statistics 101; it might find a role in the corporate world (Coursera has already given an indication that it is considering moving in this way) and recent Georgia Tech Computer Science MOOC may suggest an expedient variation.

Another issue is the way in which the MOOC was utilized in this class. It was only part of the class – it drew on a respected and knowledgeable professor who was a recognized authority in his field. The course work and lecture presentations were interesting, topical and current. This raises the issue of another way in which MOOCs may used – the flipped classroom. By "flipping the classroom" students are able to digest the study material at their own pace by not having to be physically present to absorb "lecture" material. They can then get the maximum from the teacher-student classroom interaction by being better prepared for the discussion and able to reap the benefits of the classroom interaction.

It seems reasonable to sum the pros as convenient, flexible, cheaper and provide a wider range of contacts; against this the cons are more time, demand self-management skills, encourage procrastination and increase isolation. Determining how individuals balance these competing attributes may enable us to determine who will use (read demand?) MOOCs and why.

CONCLUSION

It is most unlikely that the MOOC technologies will simply wither on the vine and eventually die. It may well be that interests and pastimes other than education come to affect the development of the MOOC – perhaps games, now a major user of internet resources will find a new home in MOOCs by providing a degree of simulation. Already we hear talk of iterative development (IT-speak for "that didn't work as we hoped, let's try and modify it a bit"). The authors do not believe that university administrations in particular and academics in general can afford to ignore this technological phenomenon. Much more research work is clearly needed to assess their use in different disciplines, levels of classes, and as part of the class or as a stand-alone offering; and by different users and different types of educational institutions. The authors would like to encourage academics to engage in the debate and to experiment – what can this latest technology do for you?

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