

Massive Open Online Courses/ MOOCs: A Gateway to Enrich E- Learning in Management Education

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This study examines the introduction, implementation and output of Massive Open Online Courses/MOOCs in higher education management science students at Middle East College (MEC), Oman. A quantitative online survey was conducted to collect the data from students studying a Bachelor of Business and Information Systems. At the time of survey, 243 questionnaires were distributed among students in management specializations. The data is analysed through PSPP software. The results reveal that MEC students have sufficient resources and they are fully equipped to start and complete online courses. Additionally, students' intentions are positive towards their enrolment in MOOCs but there is a lack of awareness among students. MOOCs help achieve module learning outcomes and enhance the self-learning skills and digital competences of the students in their programs and areas of interest.

Key words: *MOOC, e-Learning, Technology, Digital competence, Management Science.*

Introduction

Global trends in higher education are changing across the world. In the present digital era, the interactions between students and academicians through online forums have increased. The use of contemporary tools and innovative practices indicate progressive development in the field of education. There are some courses which are exclusively intended for students to offer inputs on modern teaching and learning methodologies in different subjects. Massive Open Online Course (MOOC) is a gateway to provide an online self-learning environment to 21st century students.



This study analyses the quantitative data collected through questionnaire which was completed students in the department of management studies at the Middle East College (MEC). In total, four online courses/MOOCs have been introduced to students studying international management, entrepreneurship, strategic management and cost accounting modules. The reasoning behind the introduction of MOOCs is that MEC teaching and learning philosophies include online learning, student led learning and a community of learners under the umbrella of a flip learning environment. These courses were offered by Durham University, Berlin School of Management, Open University Australia and COURSERA. The online MOOC/courses comprised of emerging areas and learning materials i.e., video lectures, discussions, practice study materials, etc. At the start, students were engaged in lab sessions for registration to online courses and they were continued on a weekly basis to complete online lectures and activities.

Rationale

MOOC develops new pedagogies to benefit both academia and students. MOOCs are offered as free or low paid programs and students from different age groups can participate in these unique courses. These online courses are enabled under open learning and network models, which indicates that connected learning is possible through online exchanges and networking (Kharbach 2012).

MOOCs connect the participants outside of traditional learning systems, offer autonomy and openness of knowledge, through digital learning environments. The growing trend in connective learning, encourages students and academics to interact formally and informally through e-modules, webinars, online workshops, podcasts, social media networks and online blogs.

Objectives

- To understand the factors and resources that influence the implementation of MOOCs.
- To examine the level of students understanding that is enhanced through the use of online courses.

Literature Review

Flexibility, quality and higher levels of interaction are the main characteristics of MOOCs. Online courses are more appealing to students with financial challenges, as many of these courses are offered at low cost or free of charge (Muzafarova & Kaya, 2014). Although,



MOOCs are targeted at a mass audience, the typical structure of MOOCs is equally suitable for every single user. However, major online course providers, such as Udacity, EDX, and Coursera, have the common problem of teachers handling massive numbers of students. MOOCs provide a simple solution to deal with this problem by implementing peer support, grades and feedback to each other's work (Baggaley 2014). MOOCs represent exciting opportunities and use of modern technologies by potential users to apprehend the benefits of global higher education (Marshall 2014). According to McGuire (2012), MOOCs are suitable only for high achieving and intelligent students as they are acquainted with the basic skills/pre-requisites which are required to learn. On the other hand, Koller et al., (2013) argues that online education allows facilitators to pack additional study material within the lecturer or video segments because the option of re-watching and re-attempting a topic is available.

Based on connectivism theory, education must be transformed from teacher-centred highly structured approaches to student centred and autonomous learning approaches through open networking (Downes and Siemens 2005).

MOOCs allow students to control the pace of instructions and provides them with an opportunity to evaluate how they can study a course. Students' reasons for enrolling in MOOCs vary from financial consideration to personification of knowledge. An extensive decrease in the number of students in regular classes substantiates the viability of alternate schooling methods. Additionally, learning communities now prefer to use social media networking of their own choice i.e., Blogs, Twitter, Facebook, Wikis etc. instead of using on-site traditional learning environments that are provided by course or academic institutions (Meckness et al., 2010).

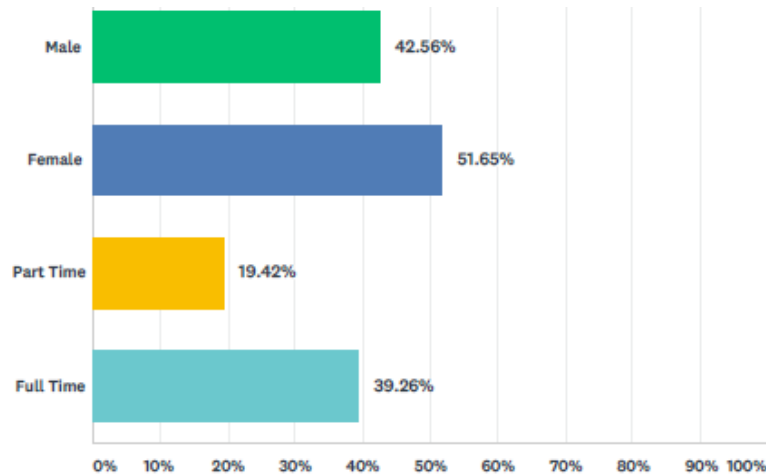
Methodology

An online survey questionnaire was created through Survey Monkey and was distributed to students through email. The survey was circulated to the students of the Management Studies department and 99 participants volunteered to respond to our online survey. The questionnaire consisted of 9 closed-ended questions with one open-ended question as feedback. Questions were focused on students' gender, year of study, level of english language proficiency, internet access, familiarization with MOOCs and impact of online courses on student learning. The responses were imported into an excel file and then imported to PSPP statistical software for a final analysis. Appropriate graph charts and tables were created and the results were analysed and discussed. Suggestions are provided for future research.

Findings & Discussions

According to PSPP, the following data results are obtained:

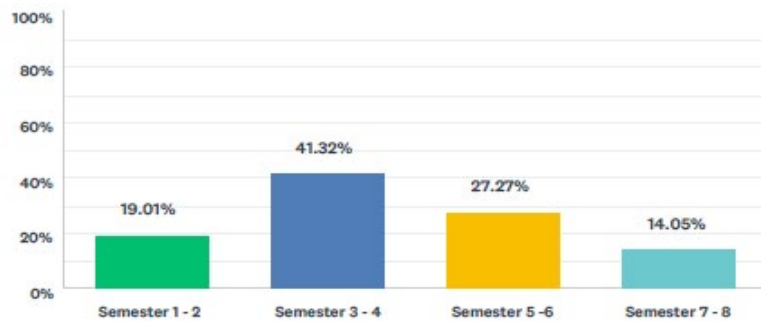
Figure 1. Details of Students



| ANSWER CHOICES | | RESPONSES | | |
|------------------------|---------|-----------|------|--------------------|
| Male (1) | | 42.56% | 103 | |
| Female (2) | | 51.65% | 125 | |
| Part Time (3) | | 19.42% | 47 | |
| Full Time (4) | | 39.26% | 95 | |
| Total Respondents: 242 | | | | |
| BASIC STATISTICS | | | | |
| Minimum | Maximum | Median | Mean | Standard Deviation |
| 1.00 | 4.00 | 2.00 | 2.36 | 1.14 |

Figure.1 shows that 51% of total students were female and 42% students were male. Furthermore, a majority of the students studied full time and only 19% were part time students.

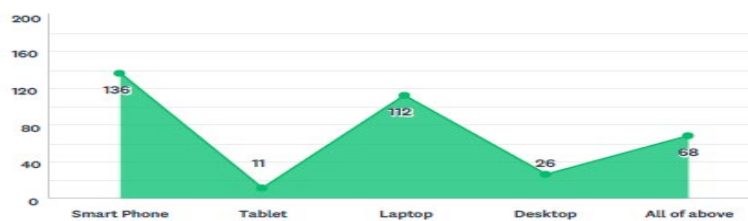
Figure 2. Academic level of Students Details of Students



| ANSWER CHOICES | | RESPONSES | |
|------------------------|---------|-----------|--------------------|
| Semester 1 - 2 (1) | | 19.01% | 46 |
| Semester 3 - 4 (2) | | 41.32% | 100 |
| Semester 5 - 6 (3) | | 27.27% | 66 |
| Semester 7 - 8 (4) | | 14.05% | 34 |
| Total Respondents: 242 | | | |
| BASIC STATISTICS | | | |
| Minimum | Maximum | Median | Mean |
| 1.00 | 4.00 | 2.00 | 2.36 |
| | | | Standard Deviation |
| | | | 0.94 |

Figure 2. provides of those who participated in the online survey, 19% are freshmen, 41% are sophomores, 27% are juniors and 14% are senior students.

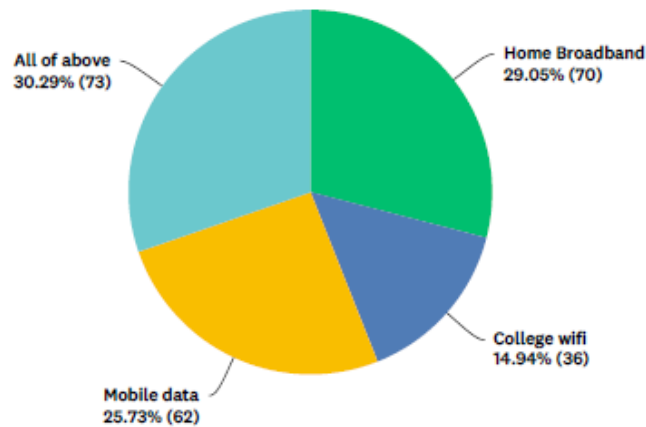
Figure 3. Technological equipment used by students



| ANSWER CHOICES | | RESPONSES | |
|------------------------|---------|-----------|--------------------|
| Smart Phone (1) | | 56.20% | 136 |
| Tablet (2) | | 4.55% | 11 |
| Laptop (3) | | 46.28% | 112 |
| Desktop (4) | | 10.74% | 26 |
| All of above (5) | | 28.10% | 68 |
| Total Respondents: 242 | | | |
| BASIC STATISTICS | | | |
| Minimum | Maximum | Median | Mean |
| 1.00 | 5.00 | 3.00 | 2.66 |
| | | | Standard Deviation |
| | | | 1.52 |

Figure 3. indicates that 56% students have modern smart phones, 46% students have laptops, 10% of students use a desktop system in the general lab or at home, and 28% of students possess all facilities and technologies which can be used in an online learning environment.

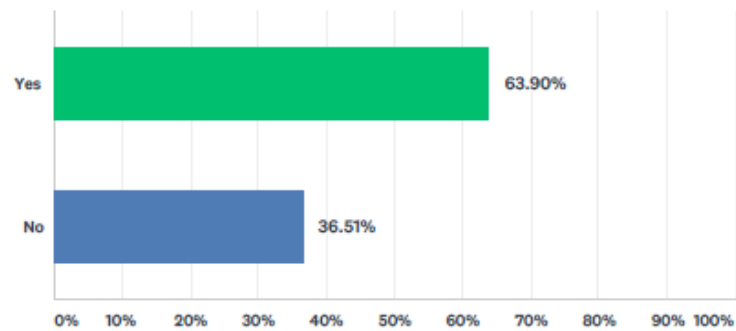
Figure 4. Internet access to students



| ANSWER CHOICES | | RESPONSES | | |
|--------------------|---------|-----------|------------|--------------------|
| Home Broadband (1) | | 29.05% | 70 | |
| College wifi (2) | | 14.94% | 36 | |
| Mobile data (3) | | 25.73% | 62 | |
| All of above (4) | | 30.29% | 73 | |
| TOTAL | | | 241 | |
| BASIC STATISTICS | | | | |
| Minimum | Maximum | Median | Mean | Standard Deviation |
| 1.00 | 4.00 | 3.00 | 2.57 | 1.20 |

Figure 4. provides that 86% of students have internet access on their mobile, laptop or tablet at home. Moreover, 14% of students' only use college WIFI only as they do not have good internet access at home. This means that most of the students do not face any difficulty in accessing technology due to the prevalence of fixed and portable devices. Additionally, the internet is available within all MEC premises, including the library and other computer laboratories. This shows that MEC students have sufficient access to internet facilities at home and college, which illustrates the digital literacy of the students and the vast potential for them to use online resources for academic purpose. MOOCs are time flexible courses which promote the self-enrolment of students and do not tie students up with strict regular class hours.

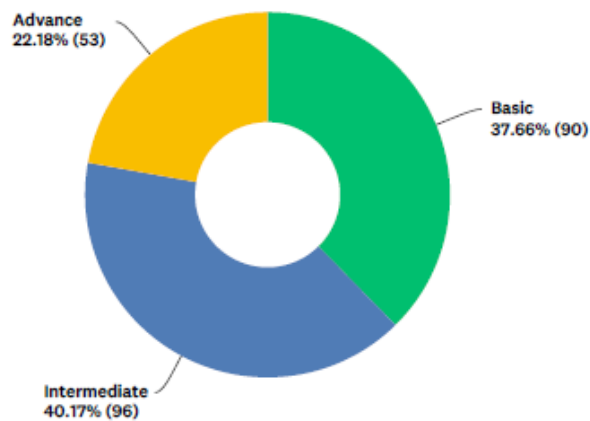
Figure 5. Familiarity of MOOC among students



| ANSWER CHOICES | | RESPONSES | | |
|------------------------|---------|-----------|------|--------------------|
| Yes (1) | | 63.90% | 154 | |
| No (2) | | 36.51% | 88 | |
| Total Respondents: 241 | | | | |
| BASIC STATISTICS | | | | |
| Minimum | Maximum | Median | Mean | Standard Deviation |
| 1.00 | 2.00 | 1.00 | 1.36 | 0.48 |

Figure 5 presents the familiarity level of MOOCs among various students. 63% of respondents declared an understanding about online courses. Only 36% of participants showed a lack of awareness about this emerging trend and its benefits in higher education.

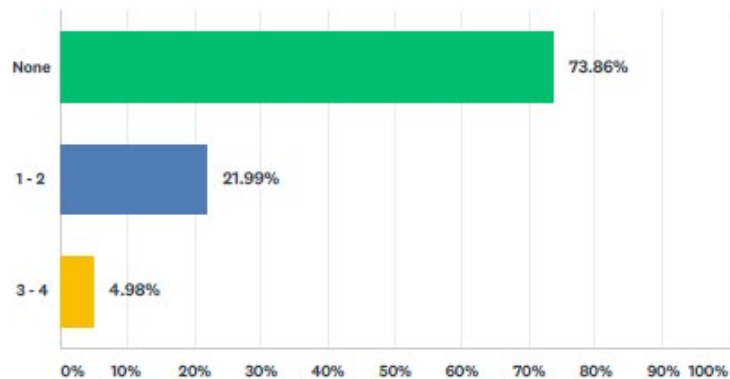
Figure 6. Language skills of students



| ANSWER CHOICES | | RESPONSES | | |
|------------------|---------|-----------|------------|--------------------|
| Basic (1) | | 37.66% | 90 | |
| Intermediate (2) | | 40.17% | 96 | |
| Advance (3) | | 22.18% | 53 | |
| TOTAL | | | 239 | |
| BASIC STATISTICS | | | | |
| Minimum | Maximum | Median | Mean | Standard Deviation |
| 1.00 | 3.00 | 2.00 | 1.85 | 0.76 |

Figure 6. provides that MEC students are well-equipped with the basic language requirements of an online course. According to the results, almost 77% students have an intermediate or above proficient level of english. As such, the students do not have problems in understanding, speaking and writing in english. These students have great potential to enrol in MOOCs, as a majority of the courses offered are delivered in english. A further 22% students have basic knowledge of english, which also meets the minimum enrolment requirements of a MOOC.

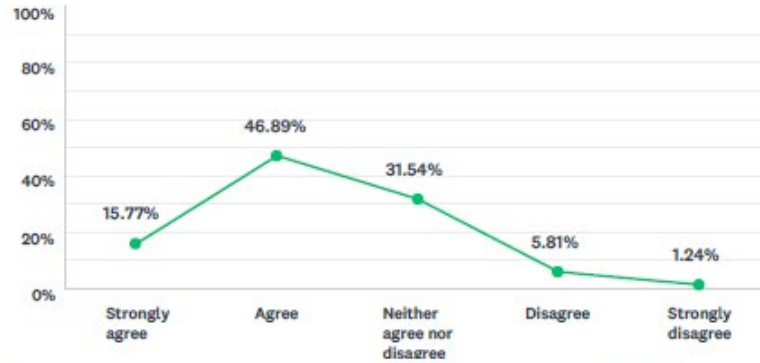
Figure 7. Previous enrolments in MOOCs



| ANSWER CHOICES | | RESPONSES | | |
|------------------------|---------|-----------|------|--------------------|
| None (1) | | 73.86% | 178 | |
| 1 - 2 (2) | | 21.99% | 53 | |
| 3 - 4 (3) | | 4.98% | 12 | |
| Total Respondents: 241 | | | | |
| BASIC STATISTICS | | | | |
| Minimum | Maximum | Median | Mean | Standard Deviation |
| 1.00 | 3.00 | 1.00 | 1.32 | 0.56 |

When we questioned students' earlier history of enrolment in any online course (Figure.7), 73% of students confirmed that they have never attended any online course before. 21% stated that they have attended only one or two courses, only 4% took between two to three courses. These results demonstrate the necessity to highlight and promote MOOCs awareness.

Figure 8. Relevancy of MOOCs to Curriculum



| ANSWER CHOICES | | RESPONSES | | |
|--------------------------------|---------|-----------|------|--------------------|
| Strongly agree (1) | | 15.77% | 38 | |
| Agree (2) | | 46.89% | 113 | |
| Neither agree nor disagree (3) | | 31.54% | 76 | |
| Disagree (4) | | 5.81% | 14 | |
| Strongly disagree (5) | | 1.24% | 3 | |
| Total Respondents: 241 | | | | |
| BASIC STATISTICS | | | | |
| Minimum | Maximum | Median | Mean | Standard Deviation |
| 1.00 | 5.00 | 2.00 | 2.31 | 0.84 |

According to Figure 8., approximately 62% of students agreed that the contents and learning outcomes of MOOCs are relevant to their course of study. On the contrary, 31% were neutral and 6% were opposed. Based on these results, there is an assumption that these respondents were not aware of the benefits of online courses.

Figure 9. Students' experience about MOOCs

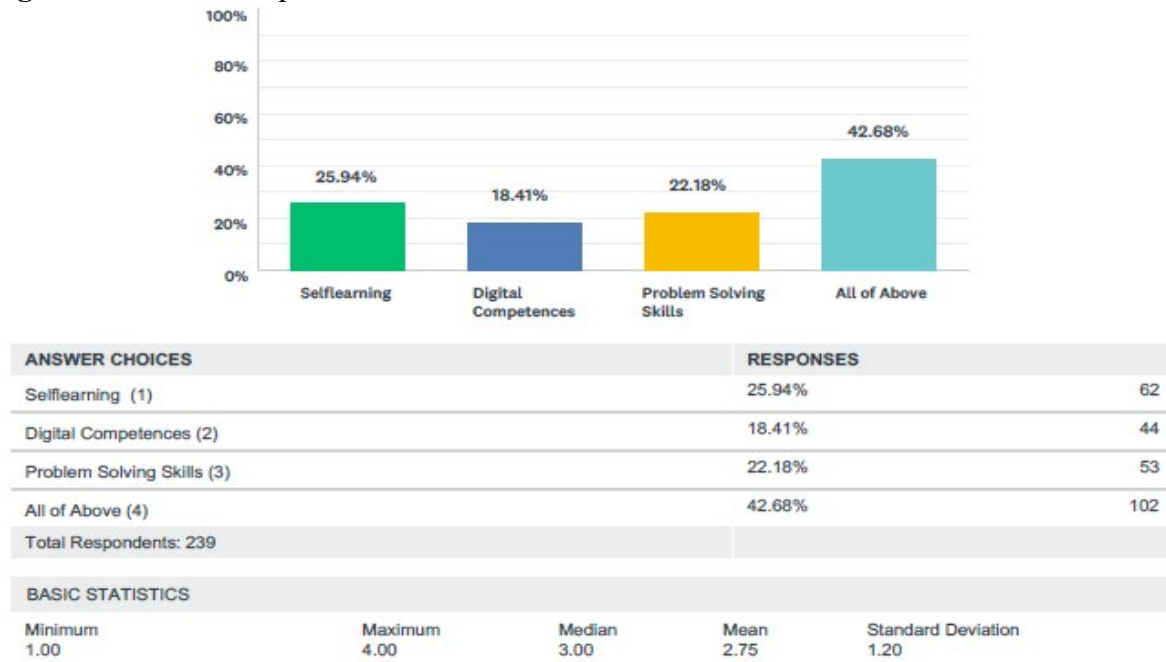


Figure 9 identifies the effectiveness of online courses, as all of the participants have answered that MOOCs are equally supportive to enhance their self-learning, digital competences and problem-solving skills.

Conclusion & Recommendation

Based on the literature review and the results, we can summarize that online courses contribute to autonomous and lifelong learning among students. Virtual learning enhances students' motivation and interest, enriches their learning pedagogies and develops a responsibility for education within individuals and the community. The results obtained propose that the percentage of MOOC awareness and use are both very low. Our study recommends that initiative and action must be taken to introduce MOOCs in other modules within, or not limited to, course curriculums. Moreover, our research suggests the organisation of workshops for faculty and students, in order to create awareness about MOOCs and their benefits in achieving desired learning outcomes and attributes.

Interventions are suggested for both stakeholders, academics and students. This will ensure they are both technological informed, understand how to integrate and design web resource, and understand how to use and learn from these courses. Additionally, student feedback should be collected and evaluated to identify the successful implementation of online courses.



Future research can be conducted on students' motivations, opinions, satisfaction, interest in online MOOCs and the contribution of MOOCs towards independent lifelong learning.

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