Introduction

The rapid development of digital technologies and the culture of sharing change many business models. In higher education new opportunities for offering the services and interacting with the students arise. Massive open online courses (MOOCs) are one of the innovative decisions. Researchers define them as disruptive innovations (Craig, 2015). The term was introduced by Clayton Christensen (2003). Disruptive innovations are goods and services that have lower quality at the initial stages of the product life-cycle compared to the traditionally sold. However, they satisfy the needs of market niches that are underserviced or neglected by the incumbents. The improvement of the innovations allows the new entrants to displace the competitors and create new markets. Disruptive innovations are new technologies or existing ones implemented in new areas. Examples of disruptive innovations are low-cost airlines, digital cameras in smart phones, microcredit, etc.

The course Connectivism and Connected Knowledge sets the beginning of the MOOCs. It is offered to 25 regular students from the University of Manitoba and 2300 online students (Yeager, Dasgupta, 2013). MOOCs rapid development is after 2012 when the technological companies offer platforms on which different universities can teach a variety of courses simultaneously targeting diverse audiences. For example, Coursera was developed by Stanford graduates with significant experience in education and high technologies. Currently the company cooperates with 148 world leaders among the universities from 29 countries. The platform offers 1976 courses in many fields of study. One of the partners is the University of Illinois at Urbana–Champaign. It offers fully online Master's Programme in Business Administration (iMBA) with four specializations and an advanced specialization in digital marketing (Coursera, 2017). Udacity was created in 2012 by Stanford University professor Sebastian Thrun who taught computer sciences. More than 20 million US dollars venture capital was invested and its quick exhaustion required in 2013 to start co-operation with Google, Salesforce.com, Autodesk, and Nvidia for a paid certificate (Bacsich, 2016). EdX started the business in 2012 uniting the efforts of Harvard University and MIT. It offers courses in 34 fields of study (Bacsich, 2016).

In Europe many courses are offered on the platforms FutureLearn and Iversity. The first is owned by Open University, UK – a leader in distance learning. Iversity was created in Germany and supports courses for a large audience. There are courses that offer ECTS credits as well as a cluster of courses PROMOOC targeting people who would like to develop professional skills for the fast developing labour markets. Regarding higher education this type of course can be used as a separate course in the curriculum, as part of a course or as a prerequisite course.

Since 2013 the European Union has implemented the initiative Opening up Education. The creation and offer of free access to educational resources is one of the major actions. In 2015 the European MOOCs Scoreboard identified 1381 MOOCs in Europe (COM 654, 2013).

The article further reviews the literature on MOOCs and presents the experience and conclusions of the MOOC Introduction to Digital and Social Media Marketing carried out within the framework of the JEMSS project for the creation of a Joint European Master's Program in Digital Marketing. The project is funded under the Erasmus programme. Project Coordinator is the University of Salford, UK with partners University of National and World Economy, Bulgaria, University of Lodz, Poland, Kaunas University of Technology, Lithuania, City College, Greece and the English company for digital services The Candidate. The course was offered six weeks during the period September - November 2015 and was repeated from...
December 2016 to January 2017 on the platform iversity.org.

**MOOCs Literature Review**

The mass open online courses aim to "democratize" access to training, and subsequently with the award of credits to obtain an educational-qualification degree. Their task is also to make the learning process interactive and more interesting to learners. George Siemens describes them as "a large public experiment exploring the impact of the internet on education" (2012).

Researchers discuss two main types of MOOC: xMOOC and cMOOC. xMOOC are the predominant part of the courses offered on the most popular platforms. They are closer to traditional learning and are aimed at reproducing certain knowledge. The other type of courses cMOOC is aimed at linking existing knowledge across multiple platforms, creating new knowledge and developing institutional networks or networks of individual scientists. The bulk of courses available today are of the first type. At the same time, new varieties such as gMOOC, which include different types of games, are emerging. According to some researchers, gaining experience in conducting these courses and optimizing spending can lead to the supply of narrowly targeted courses or the so-called Small private online courses (SPOCs) (Porter, 2016).

Mass Open Online Courses are of interest to both universities and business that is seeing new opportunities for developing corporate training (Zhelevaq 2016). For example, in Bulgaria UniCredit Bulbank informs through its blog about free courses at prestigious universities, which can be useful both to the employees of the bank and its clients.

The study of potential users and their needs is crucial for the preparation of the MOOC. Researchers divide the users into several groups depending on the motivation to learn and the completion of the courses. For some users, courses are a way to get the certificate needed for work; others want to learn about a topic and are not interested in receiving a document. For a third group of participants, MOOCs are a hobby.

Kizilcec, Piech, and Schneider (2013) classify the participants into four groups: finishing the whole course; listeners who perform part of the assignments; quickly drop outs due to loss of interest and course testers who can view videos from several lessons or read a limited number of materials after registration. The first group is the smallest while the last one is the largest.

**MOOCs advantages** for learners are the flexibility and the access to training of a significant number of people. Another benefit is the possibility to divide the lectures into shorter parts with various elements and to assimilate the knowledge in accordance with the time and the skills of the learners.

For universities, offering MOOCs facilitates the process of pre-training students in certain disciplines that they have not studied or in which they lack knowledge (e.g. statistics, mathematics, management, etc.). This can reduce the cost of training or attract more students to core courses as a result of lowering fees. Such is the practice of some American and British universities. Some universities use MOOCs to perform social activities for the population in remote territories. MOOCs can serve also promotional purposes and test the interest of a particular audience.

The main concerns of mass open online courses can be summarized in several groups (Hill, 2012):

- The business model of MOOC should provide the required knowledge and skills, cover the costs and earn revenue for the development of new courses.
- The course quality has to meet the needs of vocational training or has to be an integral part of the curriculum for the respective educational level (Comeau, Cheng, 2013).
- The completion of the course has to be encouraged (Johnston, 2015). Currently the dropout rate continues to be significant. Some studies estimate an average of about 13% drop out rate for a large number of courses on EdX, Coursera and Udacity platforms (Jordan, 2015).
- The control on students' authenticity has to ensure that those enrolled in the course are those who perform the assignments and receive a certificate.

Income from MOOCs depends to a large extent
on the interesting content, the usefulness of the assignments and the additional materials. Important factors are also the opportunity to receive a certificate that is recognized for a particular job, collection of credits for studying in a bachelor's or master's degree programme, etc. Major part of the income consists of course and certificate fees, appointment of an individual lecturer who checks the assignments or the development of specialized business training programmes. The most common business models are:

- Free basic part of the course (video and additional materials, tests) and a paid part, which includes examinations with certification or accreditation of the module as part of a programme for educational degree;
- Selling the course at a price below its cost in order to attract a large number of students to the traditional paid bachelor and master programmes of universities (Bacsich, 2016).

In Europe, the second business model is implemented to a large extent in the UK.

The platforms that offer mass open online courses benefit both from cost sharing with universities and from additional services such as recruiting employees for companies, providing additional training materials (for example, Coursera collaborates with Amazon.com), offering individual lecturers to course takers, and elaboration of comparative analysis of universities, employers, and sponsorship. Many platforms seek to work with technology leaders and offer so-called nano-educational programmes that involve several courses within six to nine months. Thus, the courses relate to the skills and certifications that companies require to work (Lapowsky, 2015). The partners - universities and technology companies - determine the distribution of their revenues depending on the duration of the course offer, quality and other factors. The universities pay a fee to the technology companies for the course technical support.

Universities have to make important decisions when designing MOOCs. They refer to course complexity, timing, and speed at which to go from one theme to another. In general, the trainees have different levels of knowledge, which determines the unequal absorption possibilities. Many of them also do not trust the assessments and the recommendations provided by course peers. Participation in the MOOC requires students' skills to plan their time and become accustomed to learning independently without the immediate intervention of a teacher in every element of the training. When learning complicated material, this may be a major obstacle for course participants. Including many topics in the course may be another problem for some of the learners (Zheng, Rosson, Shih, and Carroll, 2015).

For lectures, developing courses takes a long time and requires the involvement of experts from different fields. Some researchers are quite extreme in their assessments, and consider that developing open online courses and conducting them takes so much time and effort that they can reduce the ability of instructors to learn new knowledge (Cusumano, 2014).

**MOOC learning process**

Much of the mass open online courses are structured within 6 to 8 weeks. Each week is devoted to a specific topic that introduces the issue or follows logically from the previous topic. Students test their knowledge on the subject before or after the unit is completed. Each training week presents a video lecture, additional reading materials, a test of 5-6 questions, and an assignment evaluated by other students or by a teacher. Students can ask the lecturer or a group of lecturers who are responsible for the course questions. The most commonly used elements in the MOOC are: (Baturay, 2015):

- **Video lectures.** It is presented by a lecturer or developed as an animation. In some cases, comments or test questions are included in the units. The duration is 5 to 10 minutes.
- **Forum.** The students place and discuss problems related to the studied subject in the respective thematic area. Thus, interaction between the students and between them and the teacher is carried out.
- **Blog.** The course participants create a blog in which they express opinions, interact with other bloggers or participants in the MOOC.
- **Assignments.** They include a variety of activities to explain the issues at stake or to test the acquired skills.
- **Social media.** Students discuss the issues with
a wider audience. The use of social media is largely dependent on their popularity in the countries concerned. For example, in the UK and the United States Twitter is a preferred social network, while in countries such as Bulgaria, Greece, Poland, the Baltic States, Slovakia, and Germany, Facebook is the preferred social network. Business-oriented social networking Xing still has a larger number of followers in Germany than LinkedIn.

- **Assessment.** It is done automatically by the platform on closed test questions. In many cases, the courses include evaluation by other students on a strict set of issues.
- **Real-time video sessions** with the instructor or additional videos.

**Methodology and research results**

The major methods for data collection on Introduction to Digital and Social Media Marketing MOOC are observation, a survey conducted by the iversity.org platform and focus groups with participants in the five partner universities of the project. The survey on the platform is conducted among students on the principle of voluntary participation. The observation was carried out by the author of the article as a participant in the preparation of the course material and its delivery. The conclusions on the research results encompass also summary views of the other course developers, expressed during partner meetings and the project final conference.

MOOC on Introduction to Digital and Social Media Marketing is of the type xMOOC. The aim of the course is to create innovative digital marketing content and test it among a wide international audience. It also assesses the possibilities of a European team to create and develop such a course as part of a Joint European Master's Programme in Digital and Social Marketing. The home page of the course is shown in Fig. 1.

The duration of the course is six weeks. It is developed in English and includes many of the elements typical for the xMOOC: videos, closed-ended questions, assignments, evaluated both by other course participants and lecturers, additional materials and exam.

- **Video lectures.** The course includes 48 videos lasting on average 3 minutes that consider the need for digital marketing, digital channel differences, buyer persona, digital campaign as part of the general marketing decisions, choice of appropriate digital solutions and marketing metrics.
- **Tests with closed questions.** There are three questions for each unit of the six videos or a total of 144 questions.
- **Forum.** The platform enables discussion on each topic and subtopic between the course participants and between them and the lecturers.
- **Creating a Blog.** Students are required to create a blog at CreativeHive.org.uk. They share views each week on MOOC training by learning to use WordPress. In the second course, held in late 2016 and early 2017, blogging opportunities exist in the digital marketing community http://my.mastersindigitalmarketing.org/
- **Assignments.** They are published for each topic. For example, in order to learn how to find the right digital solutions the students have to visit the site https://www.facebook.com/business/success and to choose success stories through filters. They have to make concise conclusions, publish them in the blog and comment similar blog posts.
- **Additional materials.** For example, on the buyer persona topic, Hubspot's guide to exploring potential digital users is recommended.
- **Assessment of the students.** Students are assessed by other participants in the course on individual topics. They take also a final exam. For receiving a certificate the students have to pay a fee.

The videos present the problems of digital marketing by lecturers from the project partner countries and digital marketing agencies from three countries. Bulgaria participates with video for the Bulgarian company Dino, Ltd., whose marketing director presents the application of various digital marketing solutions. A printscreen of this involvement is presented in Fig. 2.
More than 14,092 participants from 44 countries are registered in MOOC on Introduction to Digital and Social Media Marketing. The number of unemployed is about 16%. Students are about 20%, workers in small and medium-sized businesses - 30%, employees in large companies - 20%. Their motivation for taking the course is different. In general, by this criterion, participants can be classified into two groups:

- Individual development;
- Support of the organization in which the learner works or developing his own business.

Some of the comments on individual development are as follows:

R1 "I'm starting a new career in marketing and every course is useful to me."
R2 "I need more knowledge on social media."
R3 "The course gives me the opportunity to acquire new knowledge while balancing between work and family responsibilities."
R4 "I want to make sure that digital marketing attracts me. At the end of the course I realized I would not be a digital marketer."
R5 "I want to learn while I communicate with people from different cultures."
R6 "I want to gain confidence in the issues of digital marketing."

For a significant number of students, motivation is related to improving the business or the organization's activities. Below are cites of some of this type of responses.

R1 "The course gives me basic knowledge to decide whether to hire a consultant or a specialist on these issues in the company."
R2 "The course will help me to develop a digital marketing strategy for the trade union whose activist I am."
R3 "The course gives me ideas for my professional activities."
R4 "For my freelance work I expect the course to expand and deepen my knowledge of consumer behaviour and how to create content in a digital environment."
R5 "The course helped my everyday business and I got ideas for my future activities."
R6 "I started the course because of my personal interest, but now I have an idea to start my own business."

The study of the motivation to participate in the course confirms the conclusions drawn in the literature about the need to identify the course content demanded by potential students. MOOC in digital and social media marketing has attracted the attention of a broad audience with varying degrees of knowledge, different goals and therefore a variety of expectations. This determines the different degree of interest in completing the course and obtaining a certificate. Only 7.4% of all course participants have passed a certificate test.

The majority of the respondents in the Iversity platform survey appreciated the knowledge and the training methods of the course. There was also a group of participants that rated the course high but indicated that they were not part of its target audience because they had already considerable experience in digital and social media marketing.

The focus groups conducted at the five universities, partners in the project, show that the student audience has a considerable interest in the form and content of such courses. Various comments were made. For example, the focus groups among the bachelors at the University of National and World Economy, identified that students are actively using the social media but have very limited knowledge how to use in branding. Another comment is related to the awareness of how companies target consumers in digital space. Students from City College, Greece and the Technical University of Kaunas, Lithuania have highlighted the interesting content with the participation of video business representatives as a particularly important course component. Students
from the University of Lodz have positively evaluated the practical nature of the assignments. University of Salford students have addressed the opportunities for intercultural communication and creating a network of learners with similar interests. The most highly rated elements of the course are videos, blogging, and closed-ended quizzes on each component of the six major themes.

Lessons learned

Research on the results of the course based on the survey, focus groups, discussions among the partners and the monitoring of the process of developing and conducting the course lead to concrete conclusions about the benefits and the limitations of the course for students, lecturers and universities that took part in the MOOC on Introduction to Digital and Social Media Marketing.

Students. The main benefits for students derive from the current course content and the skilful combination of theory and practical skills. An important aspect is the presentation of the practice of digital marketing in five EU countries. For the majority of students from Bulgaria, Lithuania and Poland, this course is the first attempt to successfully pass through MOOC. Students from the UK and Greece were more experienced in taking MOOCs. For many students the course provided the opportunity to write a blog for the first time.

On the basis of the students' recommendations, the following lessons can be drawn for the MOOC:

➢ At the beginning of each MOOC course it is good to conduct an initial test to evaluate students' knowledge of the subject matter and to assess the extent to which it is useful to them. Thus the number of dropouts will be reduced.
➢ Where possible, MOOCs should include live sessions with educators.
➢ Assessments of participants in the course must be accompanied by evaluations of the more experienced, i.e. the lecturers.
➢ Careful estimation of the time for the preparation of the individual assignments has to be made. The course implementation identified that it had to be different for the tasks in the six topics covered by the MOOC.
➢ More book references can be added to the additional materials.
➢ In an international team work the text in the videos has to be written in order to avoid misunderstanding.
➢ The course videos should include more practical assignments and business representatives giving real-life examples.
➢ The assignments have to combine knowledge reproduction with creative solutions.

Lecturers. The preparation of the MOOC requires a clear definition of the purpose of the course and the audience. The process of preparing the course is lengthy and implies that many personal efforts are being made by teachers and professionals who have to prepare the videos. In an international team, it is important to properly assign tasks to achieve success. For example, under the JEMSS project, the level of teacher training for organizing such a course was very different. Lecturers from the University of Salford had considerable experience in the MOOC, while for the lecturers of the other four universities this was a whole new venture. The experience determines the specific tasks that each partner has to accomplish.

One of the most sophisticated elements of course preparation is the video. For example, in the digital marketing MOOC the task in the video development was to combine the existing digital marketing knowledge with the practical examples of agencies from the five countries and book publishing. The analysis of the course identified that shorter videos with examples from a particular business sector can be very useful for linking the theory with practical business solutions.

Running the course by an international team also requires good coordination of the time of the participating lecturers in order to ensure a continuous online interaction with the students.

Universities. For universities, the main lessons refer to course accreditation and their monetization or the MOOC business model. JEMSS project practice shows that accrediting courses in both the UK and the other four EU countries is a complex process. The studies of the academia and the universities management opinions identified that MOOCs are more perceived as a complement to the traditional mode of teaching than as a separate course. This circumstance is quite different from the practice of leading USA universities offering full-time online masters programmes.
Costs and revenues from MOOC are also an important issue that universities have to solve. In cases when MOOC is a promotional tool to attract students to the traditional bachelor and master courses its cost is reimbursed by the revenue of the regular courses. When the MOOC is part of a subject training, the situation is similar to the use of the course for promotional purposes and it should be funded by internal university funds for new training methods or projects under national and international programs for digitization of education. In the cases of paid educational programmes, one of the issues that has to be solved is the payment of a certificate fee and whether it should be deducted from the total course fee of the programme.

The accreditation of the MOOC is another important area in which a decision needs to be made. In most countries, programmes or majors are accredited, not separate courses. Including MOOCs in the accredited bachelors and masters programmes require a high quality of training and control both during the course and the exam to verify the knowledge of the students. The inclusion of MOOCs in the university curriculum should also take into account the possibility of creating competition between them and the traditionally offered courses, and to study the effect of cannibalization.

An important issue for the creation of the MOOC by an international team is also the sustainable offering of the course over time, the renewal of materials and the participation of lecturers from different countries in the course, as well as the distribution of revenue.

**Conclusion**

Regardless of the different assessments of MOOCs impact on higher education development, digital transformation is an objective process and will take place at different speed in the various countries. These courses seek to address some educational problems such as access, affordability and efficiency. Technology development will create additional opportunities for content diversification, student participation in the learning process, and the role of lecturers.

The JEMSS project pilot MOOC on Digital and Social Media Marketing identified great interest among professors and students towards this form of training. It is necessary to clarify the possibilities and limitations for obtaining ECTS for such courses and their integration in the curricula of the Bulgarian universities. Making such decisions also depends on carrying out additional studies of the mass open online courses implemented in Bulgaria and the opportunities to be offered in the Bulgarian language.

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