



MOOCs
for the world
of business

BizMOOC Result 4.2

Joint Evaluation Report on three Pilots MOOCs

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The report is based on the extensive evaluation carried out by three MOOC development teams and based on their reports (R4.2a, R4.2b, R4.3c).

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Evaluation Report on three Pilot MOOCs prepared in the course of the BizMOOC project

Executive Summary

In 2016, the BizMOOC project set out to explore the applicability of MOOCs for the world of business. To identify potential, barriers and key questions related to MOOCs in the business context, a first research phase was conducted summarizing the outcomes of a survey with 1,193 learners, interviews with 106 business and industry experts and self-produced 14 discussion papers on MOOC hot topics. The developed guidelines and findings have been translated into the MOOC BOOK 1.0 – an online resource for a broader uptake of MOOCs for labour-market relevant use by institutions and individuals.

The next step was to build, test and evaluate three Pilot MOOCs catering a business audience. The aim of this endeavour was to test three different MOOC approaches for its uptake in the world of business and to apply the theoretical research outcomes of the MOOC BOOK in a practical setting. Consequently, the pilot MOOCs differ in terms of didactics, resources, specific target groups, experience of the development team, platform etc. The three MOOC topics were chosen in line with two European Lifelong Learning key competences (Learning To Learn, and Sense of Initiative/Entrepreneurship) to underline labour-market relevance and contribute to the European agenda. This valuable exercise shall allow the collection of lessons learnt, recommendations and good practice to support a better exploitation of MOOCs for improving labour-market oriented skills. Next, the findings based on this report (R4.3) are published in the MOOC BOOK 2.0 – the updated and enriched version of MOOC BOOK 1.0 available from October 2018.

The report at hand is based on the extensive evaluation scheme surrounding the three Pilot MOOCs. A sequential mixed-methods design with quantitative and qualitative aspects is applied. This includes a pre- and post-course feedback by 55 experts and 891/409 participants, plus a course design review by 2 external evaluators and the MOOC production teams as a peer review and with the whole process being overseen by an external quality assurance board consisting of 7 experts. This document presents the meta-analysis of the individual reports delivered by the three MOOC teams on their courses (available as separate reports R4.2a, R4.2b, R4.2c; in total more than 300 pages of data and analysis) and serves as basis for the development of lessons learnt, recommendations and good practice (R4.3). It therefore acts as pivotal element between individual MOOC analysis and overall recommendations developed as a core result of the BizMOOC project.

Findings suggest that the implementation was highly successful. With 5.499 enrolments to date (Oct. 2018), the overall target KPI of 5.000 is (over)-reached, the completion rates are above average, and the qualitative feedback is highly positive as well from learners and experts. The high impact of the Pilot MOOCs is especially remarkable, as no major global MOOC platforms have been used, but less known, second-tier EU-based MOOC platforms. In addition, the project consortium design included a diverse setting of MOOC experience and non-experienced business and industry partners to allow direct target group feedback and a comprehensive collection of lesson learnt from different perspectives. The differing experience-level was sometimes challenging in the development phase, but unlocked valuable additional learnings and new perspectives how MOOC-inexperienced institutions can approach the topic.

On an individual MOOC level, MOOC1 and MOOC2 decided to take low-budget approaches to test whether institutions with less resources can still successfully produce relevant business MOOCs. This can be confirmed in our case, as both MOOCs have resulted in a positive evaluation. MOOC1 was provided as a self-paced course on an open MOOC platform (OpenLearn Create) to pilot test if also institutions with limited resources can take part in the movement and run successful MOOCs. The project design allowed the direct inclusion of MOOC inexperienced institutions with limited budgets and resulted in valuable learnings what can be achieved, and where the limits are. Especially in terms of outreach, MOOC1 was by far the smallest MOOC of the three MOOCs, but received a lot of positive feedback from those that enrolled.

MOOC2 was carried out on a primarily Spanish-speaking platform (UniMOOC), opening up to an English-speaking audience for the first time. It therefore brought in many additional learners from Latin American countries (following one additional target of the BizMOOC project), but also reached many learners from non-Spanish speaking countries. With this MOOC, we also wanted to test how existing open educational resources can be used and to what extent.

MOOC3 was carried out by the most experienced team, and relatively higher resource-investment (yet still low budget compared to leading MOOCs). This MOOC had the highest enrolment and completion rates and an outstanding positive evaluation (including becoming finalist of an international entrepreneurship teaching excellence award). The huge interest might be partially explained by the niche topic (recent topic, but no MOOC on offer yet to this topic) touched by the course, by the more specific target group and the high effort and enthusiasm invested by a team of four institutions (it was also the largest MOOC team of the project).

The applied quality and evaluation scheme is unique as it combines existing quality checklists and surveys with qualitative reviews. Input is collected during development phase and by pre- and post-course evaluation by both experts and MOOC-participants, next to statistics data during the MOOC. This quality and evaluation scheme has proven to be effective and applicable for other cross-sectorial/-institutional

teams. The complete evaluation process including the tools and templates is made available with open licenses for public use in MOOC BOOK 2.0 (Learn more > Resources). The obtained rich results (findings, lessons learnt, recommendations, and good practice) can contribute to increasing the use of MOOCs and upgrading the quality of new MOOCs.

Through testing three different formats and designs of MOOCs this project was able to deliver important findings related to how can MOOCs better address the needs for the world of business. The most important factors include:

- Clear identification of target audience(s) and its needs, motivations and limitations and learning outcomes;
- The use of a reliable platform with a strong outreach and effective, proven to work learning design principles for course development in international collaboration;
- Alignment of design, goals and content, as well as learning outcomes, to target group needs and expectation, as well as time preferences (ensuring an optimal „fit“ between these variables);
- A validated quality assurance model for MOOC development and evaluation of MOOCs in cross-sectoral international teams;
- Inclusion of local, context specific examples and content;
- Considering multiple language versions of courses and assets;
- Aligning promotion and course topics to business schedules and company competence frameworks.

This report concludes that MOOCs present a potentially valuable opportunity for the world of business to upgrade employee skills and develop organizational knowledge. However, the existing possibilities of MOOCs for the world of business are exploited only to a very low extent. An important finding is that individuals do uptake MOOCs on their own, organization rest unaware or reserved. A vast majority of the participants of the three Pilot MOOCs found the course to be very highly or highly applicable in their everyday professional life and a strong majority was highly satisfied with the course admitting it enhanced their skills. These findings do confirm that MOOCs can effectively address the needs of the business world.

To this end, the multiple findings from the three Pilot MOOCs can be clustered in four domains: (1) Promotion; (2) Course Design; (3) Increasing Participation and Completion; and (4) MOOCs for the world of business. The extensive findings in those four domains have been furthered and used to elaborate 50 lessons learnt, 25 key recommendations and 20 good practices. They are presented in a separate result (R4.3 Lessons Learnt, Recommendations and Good Practice from Pilot MOOCs) and are available in the MOOC BOOK 2.0 (<http://www.mooc-book.eu>).

1. Introduction

Launching the New Skills agenda, the EU Ministers showed concerns about “the level of knowledge, competences and skills in a competitive, complex and multicultural world. Europe is also affected by periods of low economic and employment growth, an ageing population, as well as increased migratory flows and low levels of innovation”. The Ministers agreed that it is “important to go beyond the immediate needs of the labour market and focus also on those aspects of education and training that are able to drive innovation, entrepreneurship and creativity, shape sectors, create jobs and new markets, empower people (including the most vulnerable). In this context Massive Open Online Courses (MOOCs) and digital continuous education are seen as a flexible and scalable solution for a transnational, truly European response to the needs of the economy across Europe.

In recent years, MOOCs have become an increasingly important component of the global competence development ecosystem. The interest in the use and development of MOOCs for training, professional development and business is on the rise, also in Europe (BizMOOC Report 1.3c). Taken the growing amount of available MOOCs, delivered by various MOOC providers (both major global or national platforms and more institutional platforms) and based on different approaches, users wanting to upgrade skills through online learning need comprehensive guidelines to manoeuvre in the existing jungle of MOOCs. Thus there is a renewed need to ensure that MOOC users are aware of existing evaluation criteria and that they are able to distinguish themselves the usefulness, educational value and practical application of MOOC courses to the largest possible extent. Also, it is important that new MOOCs are developed in accordance with design and delivery of best practices and various quality standards. These aspects are of critical importance both in terms of learner experience, but also reputational value for MOOC creators and providers.

The BizMOOC project aims to contribute to the above goals focusing on the European experience and European context of online learning. For this reason, the BizMOOC project Consortium jointly with partners and collaborators has engaged in developing three MOOCs. The choice of topics was determined at the application stage and addressed three important topics and contribution to two critical lifelong learning key competence areas (“Learning to Learn” and „Sense of initiative/entrepreneurship”) defined by the European Union:

- MOOC 1 – Learning with MOOCs for Professional Development and Digital Skills, Digital Learning
- MOOC 2 – Innovation, creativity and problem solving
- MOOC 3 – Intrapreneurship

This report presents an overview of the design process, delivery, promotion and multi stream evaluation process of these three pilot MOOCs. The key deliverable of BizMOOC was to verify the effectiveness of

various MOOC approaches for the world of business. The overarching goal of the pilot MOOCs was to test different existing formats and approaches to MOOC structure, content and delivery.

In addition, this report presents the development and implementation process of three pilot MOOCs and evaluates findings corresponding and contributing to the following BizMOOC project goals:

1. Identifying opportunities MOOCs present for the business community and higher education institutions
2. Assess the awareness about MOOCs within the business community and higher education institutions
3. Testing and assessing different MOOC formats and approaches and their fit with target group preferences
4. Popularizing MOOCs within areas with very low MOOC response (esp. Eastern Europe, but also involving further global regions such as Latin America to increase the project scope and impact)
5. Contribution to European standards of MOOCs
6. Developing university-business collaboration around MOOCs

Although the three courses covered different topics, the process of their creation was similar to a limited degree, based on joint design principles and regular exchange among the production teams. The three MOOC teams consisted of university and business professionals, who collaborated together and exchanged their expertise producing synergetic effects. The general overview to the MOOCs, its design process, target groups, promotion activities, and course statistics are presented in chapter 2 of this report.

The following chapter explains the multi-stream quality assurance and evaluation process that was conducted along the design and delivery process and included both learner and expert feedback pre- and post- course. The results are summarized for each individual step and then reflected on an overall basis between MOOCs and between phases (pre- and post-course), followed by a chapter with reflection on our key performance indicators. The extensive evaluation report to each MOOC are part of the Annex of this report and elaborate and present the full analysis.

Finally, our conclusions are presented in chapter 5 and they serve as basis to multiple lesson learnt, recommendations drawn and good practice identified for the use of MOOCs in the world of business which have been elaborated on top of this evaluation report in a dedicated joint report: BizMOOC Result 4.3: Lessons Learnt, Recommendations and Good Practices from Pilot MOOCs.

2. General Information about the three MOOCs

Two work packages of the BizMOOC project (WP3 and WP4) are dedicated to the development and implementation of three MOOCs to pilot test the findings from the research carried out in the first phase of the project and evaluate the dimensions introduced by the project objectives and goals (see introduction; such as opportunities, awareness, applicable formats). Both work packages deliver different results building on the work carried out:

- 3.1 Methodology of Pilot MOOCs (public result, available on <http://bizmooc.eu/outcomes/>)
- 3.2 Blue print for Pilot MOOCs (production plans for the teams, building on 3.1)
- 3.3 Promotion strategy for Pilot MOOCs (combined with 7.3 Social Media Campaign)
- 3.4 Feedback solicitation strategy (evaluation strategy of the MOOCs, also presented in this report)
- 3.5 Three Pilot MOOCs (public result, available on bizmooc.eu/pilot-moocs/)
- 4.1 Execution of Pilot MOOC (public result, available on <http://bizmooc.eu/outcomes/>)
- 4.2 Evaluation report on Pilot MOOCs (this report, available on <http://bizmooc.eu/outcomes/>)
- 4.3 Lessons learnt from Pilot MOOCs (public result, available on <http://bizmooc.eu/outcomes/> and integrated in mooc-book.eu; building on 4.2)

Already in the initial project application in early 2015, the consortium decided on a draft plan on different MOOC topics, formats and development teams, but as this is a very dynamic field, the following was stated (p. 71/72): *"The consortium has already set up a draft how the different types, contents and team composition shall look like, according to their field of experience. As new MOOC formats, types and new developments might evolve until the elaboration of the Pilot MOOCs starts (M15), this draft composition will be adapted according to the State of the Art if better results could be achieved."* Also, the feedback received in the evaluation of the proposal stated that *"Overall good level of detail is provided in the work programme, but at the same time some essential information is missing, e.g. the modular structure of the proposed MOOCs and the didactical approaches to be used."*

According to this, the consortium jointly re-evaluated the status quo on MOOC formats when starting the development process in February 2017 (more hybrid formats have been introduced, trend towards self-paced courses and the average course length is increasingly becoming shorter), the outcomes of our WP1 research, the availability of other MOOCs in the fields (e.g. many entrepreneurship MOOCs, therefore focus on intrapreneurship in MOOC2) and suggested the design presented in Table 1 to EACEA in the course of the interim report in 2017, which approved the approach,

In the initial application (p. 72), the 3 planned pilot MOOCs had titles similar to the two LLL key competences we want to address with the project ('Learning to learn through MOOCs'; 'Sense of initiative

(entrepreneurship); and “Innovation, creativity & idea creation”). The specific fields within these key competences have been identified based on our review and more attractive MOOC titles were suggested (see table 1) below to attract the target groups.

In terms of target numbers, the following was targeted at application stage:

Performance indicators of WP3:

- 3 Pilot MOOCs by M23
- Min. 5.000 registrations for the Pilot MOOCs by M23
- Min. 90 participants to give extended feedback before MOOC implementation
- 55 external experts to give extended feedback before MOOC implementation
- Additional MOOC participants from Latin America through the network of P4 (ES– UA).

Performance indicators of WP4

- First Pilot MOOC (“Learning to learn”) completed by M26
- The other 2 Pilot MOOCs completed by M29
- Minimum 4.000 participants (“active users”) for the Pilot MOOCs
- Feedback from 110 participants after the MOOCs
- Feedback from 55 experts after the MOOCs
- E-certificates/recognition for at least 500 participants of the Pilot MOOCs. Options: Certificate of participation (input related), Badges (cluster of task related), Certificate of completion (output related) or even ECTS/ECVET certificate (part of formal curriculum).
- 1 comprehensive Evaluation of Pilot MOOCs conducted (by M31)

2.1 Overview

Below is an overview of the general information about the three pilot MOOCs.

Table 1. Overview of the general information about the three pilot MOOCs.

MOOC 1	MOOC 2	MOOC 3
Title of the course		
Learning with MOOCs for Professional Development (iteration 1) ¹ Digital Skills, Digital Learning (iteration 2) ²	How to generate innovative ideas and how to make them work. ³	Intrapreneurship - Make your Business great again ⁴
Thematic Fields (LLL key competence to which the MOOC contributes to):		
Learning to learn (through MOOCs)	Innovation, creativity and idea creation	Sense of initiative (entrepreneurship & intrapreneurship)
Platform used		
OpenLearn Create – a MOOC platform available for anyone (e.g. non-OU staff) to take MOOCs and to utilise to create open courses.	UniMOOC – a MOOC platform run by the team of International Economy Institute of the University of Alicante, open to all participants.	Mooc.house – a MOOC platform run by openHPI open to all participants and also external organisations can offer MOOCs based on a cooperation agreement.
Open to participants		
Continuously as self-paced MOOC starting 16.10.2017 Improved/new version started 9.4.2018	1st run: 13.11.17 -24.12.2017 2nd run 12.2.2018-31.03.2018 Now available as self-paced course	26.02.18-23.04.18. Now available as self-paced course
Developers		
Beck Pitt (leader OU) Bea de los Arcos (Course lead developer), Katrina Kopel (ESU), Sara Miani, Chiara Sancin (DIDA)	Francisco Gallego (leader - UA), Mariya Zheleva (BFU), Yanislav Zhelev (BFU), Andrea Kalafusova (ITV), Nina Tršková (ITV)	Christian Friedl (leader-FHJ), Agnieszka Zur (UEK), Christian Willems (HPI), Stefanie Schweiger (HPI), Thomas Staubitz (HPI), Thomas Neumann (AVL)
Type of MOOC		
Self-paced with limited facilitation Iteration 1 of MOOC 1 was non-facilitated and iteration 2 was facilitated.	Scheduled MOOC with focus on transmission of knowledge (video's, quizzes and only material available for re-use under open license) and some collaborative elements as collaborative groups managed initially by the Unimooc team through its collaborative group tool. Second iteration was simplified by using the tool facilitated by Google for managing collaborative group, which changed from compulsory to optional.	Scheduled MOOC with a mix between transmission of knowledge and collaborative activities, applying an adapted version of Gilly Salmon's e-moderation concept

¹ Course link: <http://www.open.edu/openlearncreate/course/view.php?id=2696>

² Course link: <http://www.open.edu/openlearncreate/course/view.php?id=3127>

³ Course link: <https://learn.unimooc.com/student/courses/course?course=innovative-ideas-2>

⁴ Course link: <https://mooc.house/courses/bizmooc2018>

Self-paced or not		
Yes	No; available self-paced after course end	No – fully facilitated in real time; available self-paced after course end
Language		
English	English Spanish (only written translations e.g. subtitled videos)	English
Study time and duration		
Duration up to MOOC participant (self-paced), 12 hours of estimated total study time	6 weeks, 36 hours total study time	Two tracks: fast track of 4 weeks and 20 hours total study time and full track of 7 weeks and 30 hours total study time
Entry requirements		
No entry requirements	No entry requirements	No entry requirements
Certification		
Certificate of Participation	Certificates of completion	Certificate of Participation Certificate of completion with a fast track record of achievement Certificate of completion with a full track record of achievement Premium certificate of completion
Materials used		
Original materials and existing OER either created by OU colleagues and available on OpenLearn, or by others and available under a CC license allowing adaptation	Reuse of existing materials available under a CC license allowing adaptation	Mostly original materials developed for the purpose of the course Participants directed to existing materials as follow-up
Participants' work assessment		
Iteration One: Reflective Log and contribution to forums Iteration Two: Automated quizzes, Reflective Log and contribution to forums	In the first edition, being designed as a cMOOC, the assessment of participants was made according to their contribution in the community (50 groups). Given the need of adapting the type of MOOC to the context, it was finally transformed in a xMOOC and the assessment of the 2nd edition was based on self-check quizzes	Progress track of visited course contents Self-check quizzes Self-check of participation in e-tivities Weekly tests Final exam Peer-to-peer feedback & evaluation Learning diaries On-site exam

The intentional differentiation around main aspects of the course allowed for the three MOOCs to become a **testing ground** for various approaches, practices and solutions and thus enabling the consortium to obtain the project's key deliverables: to verify the effectiveness of existing MOOC approaches for the world of business. This was possible in the following areas:

- The 3 courses were designed by 3 different teams with a different structure of developers. The teams consisted of people who had either a large experience with MOOCs creation and implementation, but little experience on the topic of the MOOC, people experienced in the topic but with no experience with MOOCs, as well as of people who had a good knowledge about the target group and its needs but neither experience with MOOCs nor with topic of the course. Besides that, the development teams were an interdisciplinary mixture between university and business partners.

- Each course was launched on a different platform; two university based platforms targeting students and the learning community (OpenLearn Create and UniMOOC) and one platform targeted at business and technical professionals (Mooc.house)
- Each MOOC was developed in a different format (xMOOC/cMOOC), each with a different way of facilitation.
- The three MOOCs varied significantly in the level of producing own original reading and video materials versus reusing existing (open licensed) materials. Here, we wanted to also test different approaches with regards to financial and human resources necessary to reach certain quality levels.
- The courses varied in duration and study time necessary to complete the course.
- Another testing area was the certification schemes; from single type certificates to a wide range of certification choices available for learners.
- Also, the mechanism of learners' work assessment varied from simple self-check quizzes to more advanced forms of assessment including peer-to-peer feedback loops.
- While MOOC1 and MOOC2 followed a lean, iterative approach in producing and running two iterations of their MOOCs, MOOC3 was designed and prepared for an one-time offering during project with extensive feedback loops and on-time promotion before release to participants.
- Finally, the courses followed different approaches in terms of moderation (from little moderation in self-paced courses to dedicated moderation applying an e-moderation approach and a team of facilitators)

The above differentiation strategy proved to deliver different results in terms of for example learners' feedback, completion rates and engagement. The project was thus able to deliver more sound and reliable recommendations, lessons learnt and best practices in reference to the adapted approaches.

2.2 Summary of Design Process

The three MOOC were developed based on the methodology of Learning Design (Galey, 2015) introduced to all BizMOOC partners during workshop sessions at the Open University UK in February and March 2017. In the following months the themes and goals of each week were specified and the content started to be developed gradually. This work was done using an Excel planning sheet (included in R3.1) based on Learning Design and introduced by Open University, which served as a primary planning and design tool for the makers of the three MOOCs. Members of each team collaborated on BizMOOC google drive using the planning sheet and holding frequent skype meetings within each team, but also at least one time per month between all MOOC teams to exchange on the status quo, clarify questions and fine-tune approaches.

Each MOOC team took on their own pace and adjusted it to the accepted timeline and implementation schedule. The three MOOCs were planned to be implemented one after another. This was an intentional strategy to start with the most general, introductory MOOC and end with the one dedicated to the narrowest out of the three topics. Therefore, MOOC1: *Learning to learn* was launched first and introduced learners to the world of MOOCs. MOOC2: *How to generate innovative ideas and how to make them work* was launched second and was dedicated to creativity and new ideas generation. MOOC3: *Intrapreneurship* was launched last due to the fact that it is a logical continuation of MOOC 1 and 2 for new learners and a very specific topic nested in the business reality. MOOC1 and 2 introduced general, transferable skills to a much larger extent than MOOC3.

The thematic areas of the MOOCs have already been defined when drafting the BizMOOC project and shall address two of the Lifelong Learning key competences defined by the European Commission in 2006 (and currently under revision), namely “Learning To Learn” and “Entrepreneurship and sense of initiative”. Building on the initial research conducted in the BizMOOC project (state of the art analysis on MOOCs in general and the thematic areas of the MOOCs by surveying learners, interviewing experts and carrying out desk research), the thematic areas have been fine-tuned in the three selected course topics. E.g., as there were already a bundle of entrepreneurship courses existing, we decided to go for intrapreneurship, where no offer but huge interest was identified (and this was justified by the enrolment numbers and feedback as this report will elaborate in later chapters). MOOC1, Learning to learn was a direct effect of the interview results (WP1), which identified a considerable level of unawareness on what MOOCs are and misconceptions and how they can be used. Thus MOOC1 was an answer to the gaps still existing in Europe and beyond and was tailored to the needs of all those new to MOOCs thus contributing to the project objectives (increasing awareness about MOOCs). The second MOOC was further elaborated into the direction of creativity and idea generation to have a logical and thematic connection between the MOOCs.

The following (Table 2) is a chronological summary of the overview of the design process for all three pilot MOOCs. Design and implementation was strongly supported by quality assurance and feedback loops. The evaluation/feedback steps have been added in blue. An earlier version of this process is available at <http://bizmooc.eu/wp-content/uploads/2016/02/BizMOOC-R3.1-Methodology-Pilot-MOOCs.pdf> (R3.1).

Table 2. Overview of the design process for all three pilot MOOCs

MOOC1	MOOC2	MOOC3
Consortium meeting (Cardiff, UK on 28 Feb and 1 March 2017) face-to-face in MOOC teams collaboration: definition of target group, outline of course objectives and learning outcomes.		
March 2017-September 2017		
<ul style="list-style-type: none"> • Use of spreadsheet planner and other tools by teams to ensure that course content aligned with learning objectives and outcomes, including. tracking of assets and time; • Teams develop content and track relevant course components • Consortium review of all MOOC including WP4 and WP7 strategies for evaluation and dissemination • Checklist for MOOCs (developed to align with evaluation standards) • Further refinement of content • Development of promotion strategy and plan • Feedback from external experts and two other BizMOOC teams • Further refinement of content 		
September-October 2017		
First feedback and evaluation provided by two internal teams and two external evaluators. Frequent online team meetings, f2f meeting in Milton Keynes, UK	Frequent online team meetings, intense promotion of the MOOC	First recording session in Graz at AVL premises
Intense Promotion; Release of first iteration of MOOC 1 available on Openlearn Creator platform Pre-course participant survey feedback	First feedback and evaluation provided by two internal teams and two external evaluators	Start of indirect promotion (with multipliers)
November 2017		
On-going promotion Post-course participant feedback	First iteration of MOOC2 available on the UniMOOC platform	Indirect promotion (with multipliers), first version of trailer
December 2017		
On-going promotion	First iteration of MOOC2 available on the UniMOOC platform Pre-course participant feedback Post-course participant feedback	Second recording session in Potsdam at HPI, 2nd version of trailer First feedback and evaluation provided by two internal teams and two external evaluators
January 2018		
On-going promotion	Update of course Presskit and promotion of second version of MOOC 2	Intense promotion
February 2018		
Development of 2 nd iteration of MOOC 1	Intense promotion and second iteration of MOOC2 available on the UniMOOC platform	Launch of MOOC 3 on Mooc.house platform Pre-course participant feedback
March 2018		
Development of new Presskit and promotion of second iteration of MOOC 1	Second iteration of MOOC2 available on the UniMOOC platform	Implementation of MOOC 3 on Open.house platform
April 2018		
Intense Promotion and Release of iteration 2 of MOOC 1 Digital Skills, Digital Learning, Evaluation		Finalization of MOOC 3 on Open.house platform, Post-course participant feedback

In addition, all MOOCs held post-course focus groups sessions as well (see chapter 3). Based on the evaluation delivered by external experts and two other MOOC teams, as well as feedback received from pre-course survey, teams 1 and 2 developed improved versions. Most easy to implement suggestions were incorporated before release date of the MOOC. While more time-consuming comments were tackled in 2nd iteration of those MOOCs, keeping the intended learning outcomes the same but changing the content as well as the structure of particular modules. With this improvements, the overall target numbers have been reached in all dimensions (see chapter 2.6 on enrolments and certificates and 3.6 on target number and KPIs).

2.3 Overview Production Costs

The following section provides an overview to the resources needed to produce each MOOC. The staff costs are calculated by using the amount of time per partner needed (in days) in four different development stages and multiplied with the Erasmus+ Unit costs for Knowledge Alliances for each country. This approach was taken to avoid data security issues of publishing any real remuneration policies of participating institutions and staff and also to allow a transparent calculation scheme and comparison between MOOCs. Please be aware that in some cases the unit costs might significantly differ from real salary rates and that subsequently, a real cost calculation scheme might look correspondingly different. Next, the unit costs highly differ between participating countries. Especially rates for Eastern European Countries are times lower than Western European countries and subsequently, a different mix of MOOC production teams (especially the distribution Eastern/Western Europe countries) would have resulted in different staff costs per team, even if the time invested did not change. Therefore, the costs have to be interpreted with care. However, the approach still serves the purpose of getting an overall impression and a better feeling of the resource dimension of each MOOC.

“Out-of-the-pocket” costs are additional costs for producing the MOOC such as platform fees, rent of video labs, buying content etc. In that category, market prices for external customers have been applied which have been brought into the project by the partners as own contribution (“out-of-the-pocket”). This external perspective was chosen to outline how much the type of MOOC would have cost an external institution to give a better impression how much costs to expect. Note that MOOC1 and MOOC2 followed the strategy to operate with very low “out-of-pocket” costs to pilot test the opportunity to produce lower-budget-but-quality Business MOOCs.

On balance, the total costs include staff and other (“out-of-the-pocket”) costs for the stages initial design, development (incl. promotion), operational and evaluation – as the evaluation scheme in this research project was more extensive, total costs could be reduced for all three MOOCs accordingly.

The following table (Table 3) shows differences in costs at different stages and also in terms of total costs per MOOC. When looking at the initial design costs, MOOC1 uses the highest staff resources. This could be

explained by two arguments. First, part of MOOC1 team was also the institution which was leader of the whole work package 3 (MOOC Design) dealing with the coordination of three Pilot MOOC's production and therefore had to set up the process for the whole MOOC Design, blue print, promotion etc., which could then be adopted/adapted by the other two teams in a cost-efficient way. This also underlines the theory that institutions which are offering/producing MOOCs on a regular/institutional basis could realize certain potentials in terms of efficiency/synergies and reduce costs per MOOC (following the principle of economies of scale). Second, MOOC1 had the broadest target group and most general topic and therefore had to carry out the largest target group/market analysis. Also here, being the first MOOC within the project, many learnings from MOOC1 market analysis could be adopted and adapted more efficiently for the other two MOOCs leading to a resource-efficient initial phase in these teams.

The development phase was clearly the most expensive one for MOOC3, as all materials have been originally produced (including two bilateral face-to-face meetings and multiple-day-recording sessions) for the MOOC. For the two other MOOCs, parts of the courses build on re-use of materials or less high-quality videos to test whether to which extent these approaches work for a business community. Also in the operational and evaluation phase, MOOC3 with its sophisticated and dedicated e-moderation concept resulted in the largest share of staff costs. In addition, both stages are assigned to work package 4 (Implementation and Evaluation of the MOOCs) of the project which is led by an institution which is part of MOOC team 3. Therefore, this partner set up the implementation and evaluation design, structure and overall evaluation report. This resulted in higher staff resources for team 3, but also lower for the other teams, as again many procedures and experiences could be adopted and adapted from team 3. In terms of "out-of-pocket" costs, also MOOC3 had the significantly highest costs (esp. platform and production costs), which is explained by the approach to use a professional not-for-free MOOC platform and to produce only original high quality content.

Table 3. Overview MOOC Production Costs for all 3 Pilot MOOCs

MOOC team #1 - Professional Development/Digital Skills, Digital Learning (2 iterations)	Staff costs	Out-of-pocket	Total costs (€)
Experience level: 3 institutions > one low, one medium, one advanced institution (depending on the partner)	(staff days * day rate)	(e.g., ICT, equipment, platform, buying content, using video lab)	
Initial design costs (analysis market, design according OUUK template)	€ 19.125,00		€ 19.125,00
Development costs (production before launch of MOOC)	€ 5.628,50	€ 50,00	€ 5.678,50
Operational costs (running the MOOC)	€ 5.021,00	€ 8.000,00	€ 13.021,00
Evaluation (after MOOCs ends)	€ 8.605,00		€ 8.605,00
TOTAL	€ 38.379,50	€ 8.050,00	€ 46.429,50

MOOC team #2 – How To Create Ideas (2 iterations)	Staff costs	Out-of-pocket	Total costs (€)
Experience level: 3 institutions > two low, one medium (depending on the partner)	(staff days * day rate)	(e.g., ICT, equipment, platform, buying content, using video lab)	
Initial design costs (analysis market, design according OUUK template)	€ 8.500	0	8.500 €
Development costs (production before launch of MOOC)	€ 13.474	€ 520	13.994 €
Operational costs (running the MOOC)	€ 9.440	0	0 €
Evaluation (after MOOCs ends)	€ 6.056	0	6.056 €
TOTAL	€ 37.470 €	€ 520	37.990 €

MOOC team #3 - Intrapreneurship	Staff costs	Out-of-pocket	Total costs (€)
Experience level: advanced 4 institutions > three medium, one advanced institution (depending on the partner)	(staff days * day rate)	(e.g., ICT, equipment, platform, buying content, using video lab)	
Initial design costs (analysis market, design according OUUK template)	€ 11.434	0	€ 11.434
Development costs (production before launch of MOOC)	€ 24.356	€ 17.600	€ 41.956
Operational costs (running the MOOC)	€ 25.391	€ 15.000	€ 40.391
Evaluation (after MOOCs ends)	€ 19.966	0	€ 19.966
TOTAL	€ 81.147	€ 32.600	€ 113.747

Finally, it should also be considered that the teams are not of equal size in terms of partners. MOOC3 had one partner more than the other teams, which also resulted in additional coordination, travel, and staff assigned. Thus, it may be obvious that a larger team of institutions in MOOC production, implementation and evaluation results in a higher spent on resources, but also results in additional expertise, experience, perspective, target group outreach, stronger networks and promotion etc. (more in the following chapters).

Overall, it has to be stated that all three MOOCs followed the intention of taking relatively affordable (still high quality) MOOC production approaches as the objective of the project was to investigate whether institutions with medium to low resources have the potential to participate in the global business MOOC movement or not (next to not intending to excessively spend European tax payer's money). Comparing the total cost with other MOOC production costs, it has to be stated that MOOC1 and MOOC2 are at the very lower end of the cost scale and that MOOC3 also still is at the lower end – comparing the level of professionalism, impact and quality (see evaluation chapter and being finalist of an international teaching award) with other business MOOCs. This is especially true, as all three MOOCs implemented a much larger evaluation scheme due to the research objectives than a typical MOOC (so those costs could be reduced accordingly).

2.4 Learning Outcomes

The results of WP1 interviews revealed vast areas of European population still unfamiliar with MOOCs, the opportunities that massive open online learning presents. Furthermore, respondents signaled existing misconceptions in regard to what MOOCs are, where and how they can be used. This was especially identified in Eastern Europe, in business and university communities alike. It was thus decided that the first MOOC should address these issues and deliver an introduction to MOOCs, raising participant's awareness and providing a "first step" to the world of MOOCs.

MOOC 1 was thus designed to address the LLL Key Competencies of Learning to Learn (with MOOCs) and Digital Competence and aimed at delivering the following outcomes (both iterations):

- Understanding how learning takes place every day;
- Appreciation and development of existing skills;
- Understand how to effectively learn with MOOC;
- Increase familiarity with a range of digital skills and practices;
- Develop a critical approach to online learning.

MOOC 2 was designed to address the LLL Key competency of creativity and innovation (sense of initiative and entrepreneurship). Its aim was to stimulate the creative potential of learners and encourage them to act as creative problem solvers in their environments. Creativity and problem solving have been identified worldwide as critical competences in contemporary societies, as skills which are transferable across contexts and which directly influence the level of innovation. These are the critical skills in EU agenda.

MOOC 2 aimed to deliver the following learning outcomes (both iterations):

- Present creativity as a human innate capacity;
- Enable the deployment of creative potential;
- Understand a range of different techniques to generate ideas;
- Develop strategies and techniques for effective problem solving;
- Enable participants to identify mistakes and learn from failure
- Allow participants to get to know approaches and criteria for evaluating and selecting ideas

MOOC 3 was also designed to address the LLL Key competency of sense of initiative and entrepreneurship. WP1 identified that there are numerous MOOCs dedicated to individual entrepreneurship, start-ups, technology entrepreneurship and social entrepreneurship and no available courses on intrapreneurship. As Innovation and entrepreneurship also take place within companies ("Intrapreneurship") with the engagement and dedication of open-minded entrepreneurial employees, the third MOOC content is targeted to unleash the entrepreneurial potential among employees from various companies on a European level. This choice of topic stemmed not only from the identified gap in the

existing MOOC offer, but also aimed to strengthen employability skills and transferable skills among the target audience. MOOC 3 aimed to deliver the following learning outcomes:

- gaining a deep understanding of the intrapreneurship concept;
- grasping the potential opportunities of intrapreneurship for companies and employees understanding the concept of intrapreneurship;
- familiarizing with numerous examples of entrepreneurial organizations and intrapreneurship projects;
- developing the ability to assess identified opportunities at work and convert challenges into opportunities;
- identifying and effectively communicating with stakeholders, target groups and sponsors of intrapreneurial projects (including delivery of pitch);
- gaining inspiration, skills and practical tools (intrapreneurial toolbox) to implement intrapreneurial ideas and/or framework in the workplace;

Detail description of the learning outcomes of each MOOC are available in the team reports (4.2 a-4.2c).

2.5 Target groups

To fulfil the overall aim of the BizMOOC project, the three courses were addressed to a wide variety of present and potential business actors (managers of all levels, employees and trainees) as well as external learners such as students, people between jobs, or just learners interested in any of the topics of the pilot MOOCs. It is fair to say that all three MOOC topics presented contemporary important skills and therefore could be attractive to the broadly understood worldwide learning community. However, each of the pilot MOOCs did have a specific target audience and the developers took the profile of the target audience, its needs and expectations identified in WP1 into account during all of the development process. Of course, it would be interesting to observe how many learners enrolled for more than one of the MOOCs, but the evaluation of this question is limited by data security regulations. Due to the project objectives, the MOOCs were carried out on different platforms with their separate enrolment schemes and data regulations. The platforms are only allowed to collect learner data in an anonymized way, therefore we can not track learners across platforms. However, we have asked the learners in our post-course surveys, if they would recommend and enroll for other BizMOOC courses, which got a very positive feedback (see for more detail chapter 3.4.2 Results Survey with MOOC Participants and the individual MOOC evaluation reports, R4.2a, R4.2b, R4.3c).

MOOC 1 was an introductory course designed for those, who are new to MOOCs and who wish to upgrade their digital skills and gain an insight into the opportunities presented by MOOCs. For both iterations of MOOC 1 the target audiences were:

- Employees wishing to upgrade their employability;

- Unemployed and students looking to appreciate and build on their existing skill sets;
- Anyone with an interest in improving their digital skills;
- People interested in digital citizenship;
- Those interested in using MOOCs to learn.

Because the target participant groups were new to MOOCs it was essential that this MOOC be user friendly, accessible, easy to follow and not too long.

MOOC 2 was targeted at people looking to develop their creativity skills, critical thinking and problem solving skills. These are all very general transferable skills, important in any contemporary environment, across different contexts, therefore potentially attractive and useful to a wide variety of audiences. MOOC 2 targeted specifically the following groups of learners:

- Lifelong Learners, with a special focus on Eastern Europe and Latin America
- Alumni and Students (eager to increase their employability and acquire practical knowledge)
- Lower-skilled employees who want to improve their capacities and career
- Start-Ups, SMEs with cannot run their own Human Resource Development programme
- Multipliers: Other projects, incubators, accelerators and Chambers of Commerce that facilitate start-up companies

For the above target audiences, it was important to create a user-friendly course with valuable examples, skill developing activities and practical references. The course focused on the very beginning of idea creation with special attention to (but not limited to) introducing ICT audience and IT tools necessary for creativity. Since not all the developers were advanced in this stream of knowledge and competence, they decided to mostly reuse open licensed contents from other courses as much as possible (existing videos and materials) and reduce course monitoring taking advantage of a community of learners (especially young people with developed digital skills).

MOOC 3 was the pilot MOOC which was specifically targeted at the current and aspiring business community, as its topic was set in a business specific context, specifically:

- Business managers of all levels (to discover the potential of intraprenurs and learn how to create a supporting environment)
- Employees
- Trainees
- People searching for jobs to upgrade their employability
- Business students
- All those planning to work with or within a business environment
- Entrepreneurship educators,
- Business consultants.

Having a diverse target audience with different needs, backgrounds and time availability meant adapting the course in terms of flexibility. The developers answered to this challenge by offering different, flexible course pathways. A fast track was offered for people with limited time and evaluation showed that this was highly appreciated plus motivated some additional learners to go for the full track after successfully completing the fast track. Hence, in this course the participants, depending on their time commitment, were able to obtain the different types of certificates: Certificate of participation, Certificate of completion with a fast track record of achievement, Certificate of completion with a full track record of achievement and a Premium certificate of completion with a full track record of achievement. The certificates and requirements are described in detail in the respective MOOC3 evaluation report (R4.2c).

The second challenge, especially in online courses targeted at the business community, is commitment and continuity; keeping participants in the course. In the setting of our project's main target audience, this is even amplified by the limited time of the target audience. In MOOC3 for example, the developers introduced an e-moderation concept including sensitively designed e-tivities to increase active participation. To address the challenge of different levels of English language command, the developers offered video-integrated slides with a zooming-feature and written explanations to all videos.

2.6 Promotion

The promotion strategy of all three pilot MOOCs was conducted via several channels.

- All three teams developed press kits containing shorter and longer descriptions of the course and short trailer videos (teasers) to introduce the MOOC and invite potential participants.
- Each team worked on the promotion campaign closely with their relative MOOC platforms developing global announcement of the MOOCs on the platform and in the platform Newsletter. It was important to formulate the correct keywords to ensure search engine optimisation.
- Promotion by all developers within their local and international networks: this was a massive campaign coordinated by each partner consisting of direct mailings/phone calls and newsletters to target audiences, representatives, faculty and business meetings, etc.
- Promotion of MOOC making using of existing networks of partners (e.g., EADTU and OpenupEd newsletters, social media accounts partners)
- Each team organized promotion events (e.g. Roundtable in Potsdam, December 2017, bringing together various actors from academia, business and other institutions, BizMOOC workshop at openHPI Forum 2017 for the Forum participants)
- Introduction of BizMOOC project and pilot MOOC(s) at several conferences and cyclical events such as e-learning days to ensure a face-to-face promotion of the MOOC to potential multipliers and end-users besides the large digital channels.

- All three pilot MOOCs were also promoted via social media channels (LinkedIn, Twitter, Facebook, XING), also making use of the teaser videos.
- Research Gate project update.

An evaluation of the effectiveness of the various channels suggests that diversification of channels is very important. Providing a “fit” between target groups and promotion channels was a challenge, since target groups were diverse and relatively wide, sometimes overlapping. The global, large mail-outs by the platforms clearly triggered the enrolment numbers due to a very vast outreach. The participants reached via this channel were already registered on the MOOC platforms and had a very low barrier for enrolling. However, also the professional and institutional network dissemination of the partners showed a clear effect, as the majority of users have not been enrolled on the platforms before. 841 were already registered users, 2064 were new to the platform. Based on our gathered evidence, we believe that is key to convince a critical mass of new learners to join the platforms and courses, as these participants take the time and commitment to register for a new platform and they bring in fresh perspectives and grow the already existing learning community. In the MOOC pre-course surveys, we had 47,6% (20% post-course) participants for MOOC1 which have never done a free online course before, 34% for MOOC2 and 38% for MOOC3, which we consider to be a success. Attracting and engaging new learners is an important deliverable of the project.

A further key activity was the introduction of the course to decision-makers in organisations which acted as multipliers and further recommended the course to their peers and employees. In addition, the Social Media Strategy including the course trailers have been very beneficial. Directly uploading the trailer videos to the Social Media channels was much effective than linking it from another platform. Also a transcription provided to the trailers proved to be important. By this, the video will automatically start in the timelines of people without sound, but with the subtitles. If the course trailer is good then it is possible for individuals and organizations to convince their Social Media network to share the post/announcement, the outreach and impact is incomparably larger and the enrolment numbers clearly climbed with those announcements.

Finally, it can be reflected that promotion also largely depends on the target group’s availability, annual schedule and timing. Resulting from the conduction of the Pilot MOOC, we suggest a two-stage-promotion, first addressing the indirect target groups (multipliers, at least 6 months before start) and second addressing the end-users (starting 3 months in advance, but intensified in the last 1,5 months > starting too early would result in too many no-shows).

2.7 Enrolments and Certificates

The BizMOOC project reached its target numbers in terms of enrolment and course completion.

Table 4: Key course statistics (as of 25th of October 2018 > still counting) for the three pilot MOOCs

ENROLMENTS	MOOC1 1st edition	MOOC1 2nd edition	MOOC2 1st edition	MOOC2 2nd edition	MOOC 3 (moderate version)	MOOC 3 self-paced version	TOTAL	TARGET (as in application form)
Number of enrolments (number of people registered for the MOOC)	165	168	451	1630	2857	228	5499	5000
Initial number of enrolments (number of people registered for the MOOC before the starting date)	N/A - self-paced course	N/A - self-paced course	enrolments numbers are not collected together with the date	enrolments numbers are not collected together with the date	2486	N/A - self-paced course	2486	No target set
Number of late-shows (number of people registered between starting date and end date)	N/A - self-paced course	N/A - self-paced course	enrolments numbers are not collected together with the date	enrolments numbers are not collected together with the date	371	N/A - self-paced course	371	No target set
ACTIVE USERS	MOOC1 1st edition	MOOC1 2nd edition	MOOC2 1st edition	MOOC2 2nd edition	MOOC 3	MOOC 3 self-paced version	TOTAL	TARGET
Number of active users / % of enrolments	159/ 96%	141	295/65%	1074/ 66%	1.980/71%	228	3877/ 70%	4000
Number of active participants per week	N/A: self-paced course	N/A: self-paced course	N/A	N/A: self-paced course in second edition	W1: 640 W2: 431 W3: 387 W4: 397 FE: 426	<u>N/A - self-paced course</u>	N/A as some courses self-paced	No target set

CERTIFICATES	MOOC1 1st edition	MOOC1 2nd edition	MOOC2 1st edition	MOOC2 2nd edition	MOOC 3	MOOC 3 self-paced version	TOTAL	TARGET
Number of certificates of participation	<u>18/10%/10%*</u>	6 (as of June 2018)	<u>N/A</u>	<u>N/A</u>	<u>509/18%/25%*</u>	<u>N/A - self-paced</u>	527	500
Number of badges provided (for completion of certain module/task/week)	<u>N/A</u>	<u>N/A</u>	292	<u>365</u>	<u>N/A</u>	<u>N/A - self-paced</u>	657	
Number of certificates of completion	<u>N/A</u>	<u>N/A</u>	20/4%/7%*	27/2%/3%*	381/14%/19%*	<u>N/A - self-paced</u>	428	
Number of ECTS/ECVET certificates provided as part of formal curriculum	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	100	<u>N/A - self-paced</u>	100	

* real numbers/compared to number of enrolments/compared to number of active users

The above results present an overview of the three MOOC's effectiveness in terms of enrolment and completion. MOOC1 recorded the highest rate of active users compared to registered participants (96%), followed by MOOC 3 with over 70% and MOOC 2 with over 60%. All project targets were met and even overreached, except number of active users. Also, the three MOOCs contributed to the targets unevenly. MOOC 3 stand out as the most successful in terms of enrolment and completion in real numbers. Moreover, completion rates are pretty good and above the reported completion rates in most other MOOCs (6.5% by Jordan, 2014). Also here MOOC3 has better figures compared to other MOOCs. This can be explained threefold.

First of all, as the developers were experts on the topic and have had experience with MOOCs, MOOC 3 created large amounts of original learning materials, including recording with third parties, experts on intrapreneurship.

Second, out of the three MOOCs, it was targeted at the relatively narrowest and specific target group – business professionals, and therefore we can assume that the promotion campaign could be better adjusted and hence more effective. This is interesting, as before starting the MOOC production, we expected that MOOC1 with a very broad target group would address the largest audience. The pilot run showed us that it was easier to promote a new topic to a narrow target group, then a more general topic to a large target audience.

Third, the MOOC 3 team was larger than the other teams (4 partners instead of 3) and bringing in one additional partner's network. Next, the chosen approach and design may have been important to its final results. Specific measures were designed related to motivation of participants (see also last paragraph section 2.4). In addition, MOOC3 provided numerous certification (and flexible participation) options and two major tracks to fit the needs of the target group. As the majority of participants of all three MOOCs (70-80%) stated that certification is important, this was one main driver. In MOOC3, the most popular certificate in terms of numbers was the simple certificate of participation, followed by the fast-track certificate of completion. But contrasting this with the findings from our post-course focus groups and learner's informal feedback, we have been told that the completion of the fast track motivated some learners to go for the full track certificate, which was valued. On the contrary, the premium certificate which included an on-site exam was only chosen by 0,3 % of the learners – of course, this certificate was limited to learners in Graz, Potsdam and Cracow (as the on-site exam took place there), but as the majority of learners in MOOC3 came from these countries and there was no request from learners asking for additional on-site exam location, we assume the premium certificate was not valued.

3. Evaluation

3.1 Overview Evaluation Design

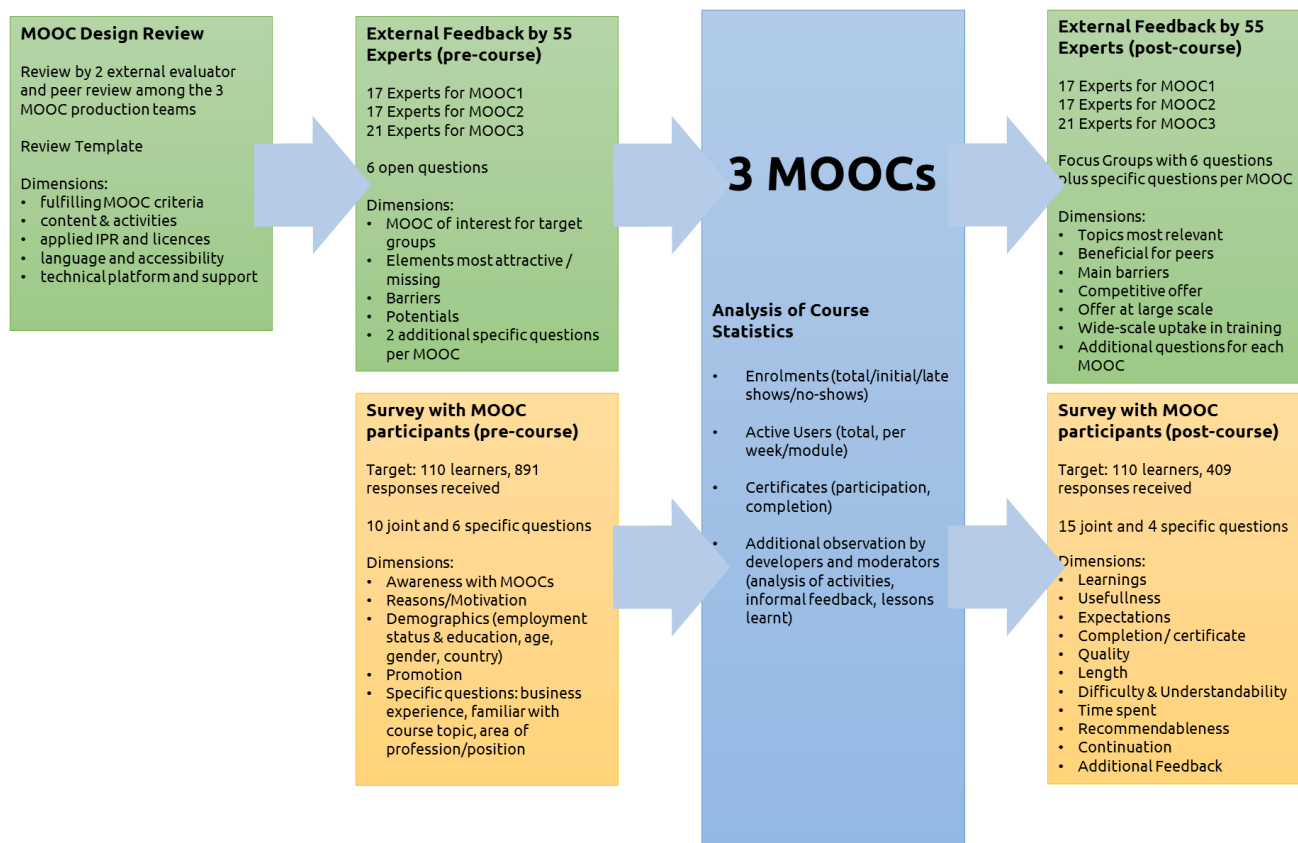


Figure 1: Overview to the BizMOOC Evaluation Process on the three Pilot MOOCs, done in a sequential mixed-methods approach. Qualitative-dominated part marked in green, quantitative-dominated part marked in yellow. See the following pages for description of each block. Source: Own work.

3.2 Description of evaluation processes

All three pilot MOOCs were evaluated by several parties and rich feedback was gathered. The review process consisted of two phases (before and after course), on different dimensions and with internal and external elements as described below. This process was initiated by WP5/WP6 in early phase of MOOC development process (early 2017) and discussed and approved by each MOOC team (and the quality assurance board of the project) such that they are aware of each quality dimensions and evaluation process beforehand.

1. MOOC Design Review

External review was carried out twofold. Two external evaluators provided their feedback. The 2 external evaluators were suggested both by the project coordinator and quality assurance leader to the quality assurance board of the project and approved. One evaluator represents the educational perspective (MOOC expert) and stems from Eastern Europe, the other evaluator the business training perspective and stems from Western Europe. Also, an internal peer-review between the three MOOC teams took place, i.e. each design was reviewed by the two other MOOC production teams of the BizMOOC project. Both expert and peer review was based on materials produced by the MOOC team (design document and the planning sheet excel) and the first MOOC implementation available at platform. i.e., each reviewer had access to both design materials and the course implementation before the MOOC started. This gave the developers the opportunity to improve the MOOC before the launch.

A standardized review form was developed by leaders of WP5 and WP6 with closed checklists and open comments. This review was done on the following quality dimensions (see individual MOOC reports for template, review and responses by teams; Annex):

- i. fulfilling MOOC criteria
- ii. content & activities
- iii. applied IPR and licenses
- iv. language and accessibility
- v. technical platform and support.

The dimensions and various quality criteria are based on existing literature (see BizMOOC Report 5.3 Quality Assurance Report 2, M18). The applicability of each quality dimensions and criteria was discussed with each MOOC team before deciding to the final review template

2. Pre- and Post-Course Feedback by 55 External Experts

In total 55 experts answered a pre-course feedback form and 55 experts contributed to post-course online focus group sessions (17 experts for MOOC1, 17 experts for MOOC2, 21 experts for MOOC3). This division amongst MOOC teams was decided due to several factors: Leaner approach, less development time, but 2 iterations for MOOC1 and MOOC2 which had 3 partners each; and a longer, larger development process for MOOC3 with 4 partners and more content and time to review.

Before course start, 55 selected experts received a one-page summary on the design of the MOOC with links to promotional material including video clips, and (if requested) access to the MOOC platform to review the course content. They then answered a survey with six open questions. Question asked were for example where if the respective MOOC is of interest for their employees/students, what elements are most attractive and what (new) elements should be adjusted (incorporated). The whole questionnaires can be found in the respective individual MOOC evaluation reports (R4.2a, R4.2b and R4.3c, see Annex). Important to mention, that all 3 courses asked 4 same questions, but adapted 2 of the

questions to the specific content and target group of the course. The questions and full evaluation are part of the individual evaluation reports. The choice of experts was a partially the same experts as contacted in the first research phase of the BizMOOC project (R1.3) complemented with target-group-relevant multipliers and decision-makers (different for each MOOC) qualified to judge the format and content of the course for their/our target group. After the course, 55 selected experts took part in (online and offline) focus groups, where similar questions have been asked (see R4.2a, R4.2b and R4.3c in the Annex) and thus providing us feedback, if the course did fulfill those expert's expectations. The selection of experts was a combination of experts already accessed before the course (approx. 50%) and selected participants of the MOOCs identified as experts with within their thematic domains or target group. The sample was complemented with identified experts in the MOOCs which are qualified to answer specific content-related questions and reflect also on their learning experience. The questions asked in the focus groups were the same for all MOOCs (6 basic questions – see individual evaluation reports) and optional, additional questions have been asked by each team. The evaluation took place in the form of online focus groups between 2 and 6 participants.

3. Pre-course and Post-course Survey with MOOC participants

A pre- and post-survey was conducted amongst participants to evaluate background, motives and feedback before and after taking the MOOC. Thus two surveys have been designed with joint elements for all MOOCs and specific additional questions to each MOOC tailored to the specific features of each course. The pre-course survey contained 10 joint and 6 specific questions, the post-course survey contained 16 joint and 4 specific questions (see respective annexes in the individual reports). The target number was 110 learners in total for all MOOCs. We have received feedback from jointly 891 participants before the MOOCs and 486 after the MOOCs.

3.3 Before-launch review of the MOOCs

Table 5: Key statistics of before-launch review the Pilot MOOCs

		MOOC 1	MOOC2	MOOC3	TOTAL
MOOC design review	Internal peer-review	Team 2 and 3	Team 1 and 3	Team 1 and 2	
	External evaluators	2	2	2	2 (the same evaluators)
No of external experts pre-course feedback		17	17	21	55
Number of learners (survey)		21 (iteration 1) 45 (iteration 2)	151	674	891

Table 3 presents the review process of all three MOOCs in chronological order and with relevant numbers: MOOC design review, expert pre-course survey, participant pre-course survey. The received feedback was very different for each MOOC team taken the vastly different approaches to content production. Almost all of the received feedback was incorporated into the MOOCs development processes. In some cases, technical limitation disabled this.

3.3.1 Results MOOC Design Review

The results of the reviews from two other MOOC teams and two experts were collected and combined by the quality assurance officer before the course started, and incorporated into the final version of the MOOC. Additionally, the teams have received survey results from external experts. The quality dimensions and design summaries have been discussed in an additional quality assurance board consisting of 7 external MOOC experts.

The feedback received from two other MOOC teams and 2 external evaluators provided each pilot MOOC with significant suggestions for improvements beforehand by each MOOC team. MOOC3 had more development time to incorporate all suggestions and comments before release date. MOOC1 and MOOC2 focused on quickest-to-fix suggestions which could be incorporated in a short time. Other comments were included, together with other evaluation data, into an improved MOOC version for the 2nd iteration.

A summary of how this feedback was incorporated into iteration two of MOOC 1 is as follows:

- the promotional materials (particularly video) were adjusted to target audiences;
- more videos, quizzes and interaction added; query regarding accessibility of content on mobile devices; more interactivity between learners and facilitators facilitated; include more information on certification included.
- a PDF version of the course was provided; OpenLearn Create not currently W3C and WCPG 2.0 compliant; subtitles for videos provided.

MOOC 2 received the feedback in time to include its outcomes into the first iteration of the course. Most feedback items were acknowledged, but some improvements were not feasible to be implemented in the used MOOC platform. However, some elements were incorporated/improved in the first and second editions, such as:

- Language parameter in links fixed
- More quizzes introduced
- In each weekly session, the pedagogical team made a synthesis of artefacts from the previous week's session
- Missing contents added
- Actions taken for the first iteration:

- Teaser video was published
- An introductory video and a detailed description were produced and published for each course module.
- Platform multilingual management problems were fixed
- Missing contents were incorporated, fine-tuning of activities, content
- Other platform bugs were fixed

Actions taken for the second iteration:

- Promotion started in more time in advance
- An assessment test was added for each module
- Fine-tuning of activities, content
- Group management was changed to google groups

Remarks on the production of original materials were not taken into account as the course is based on reusing open licensed contents.

In regard to MOOC 3, the following improvements have been made before release date based on the feedback:

- The PDF course description was added.
- Subtitles were added on Youtube and Facebook videos.
- A second, shorter version of the trailer was produced and used in Social Media promotion (comes faster to the point, keeps up the attention).
- adding a CC badge to the course detail page and state clearly that this is valid for all the content that is not marked otherwise explicitly.
- Analyzing video descriptions again and ensuring a minimum level of consistency (what is the video about, who are the speaker, purpose of video and additional links if helpful)
- Asking a native speaker to check the content.
- Adding a description of the tool before asking people to click on the link
- Adding the Story Of IBM's "Next Gen Intrapreneur" Samantha Klein in Week 1 to include a female example.
- Fine-tuning of some e-tivities where specific feedback was received.

The complete reports can be found in the annexes. It was observed that especially the peer-review among the MOOC teams was a valuable experience, as we jointly designed the overall project objectives, the overall design of our MOOC strategies (e.g., by taking the different approaches as explained in section 2.2) and by deciding to use partially same tools (e.g., quality framework, Learning Design > see BizMOOC result R3.1) and different tools (platforms, e-moderation, etc.). The most interesting part was to see and evaluate the production outcome of each MOOC after the joint start and then seeing in what direction each MOOC evolved. We purposely invented a strict and critical review culture among the MOOC teams,

as we have a good discussion basis and communication culture already established within the project and we wanted to learn as much as possible from each other. For this reason, a joint quality framework and common design approach was needed; it provided a common ground and common standards for discussion. In discussion points, where no consensus could be found, the feedback received by the external evaluators was extremely helpful, as this external perspective helped us to solve those issues. So complementing the peer-review with the external evaluators was key.

On balance, the feedback led to a bundle of improvements for all MOOCs, starting from small very specific changes (e.g. adding additional description to one activity) to major adaptations (e.g. fixing/adapting the whole MOOC platform).

3.3.2 Results pre-course Feedback from 55 External Experts

A subset of the experts was selected out of those that were already interviewed in 2016 in the BizMOOC State of the Art analysis (R1.3a, R1.3b and R1.3c) related to the opportunities and challenges of MOOCs in Europe. The experts were contacted per personal email and/or via phone. All experts were from Europe. 58% of the sample were experts from the business sector, most of them working either in HR/training/e-learning areas, communication, IT or innovation-related areas. The remaining 42% derived from university environment. Each MOOC team asked their set of experts (separate for each MOOC – no overlap) to fill in the survey structured around 4 areas in 4 open questions: most relevant topics for the target group, benefits for the target group (short and long term), potential challenges for the target group and relevance of certification. Additionally, each team was able to incorporate two MOOC specific questions which would inform the developers on the particular aspects important for their MOOC effectiveness. The following provides a core summary around the same dimensions for each MOOC and an overall reflection in the end. The extensive summaries and evaluations can be found in each MOOC evaluation report (see annexes).

For MOOC 1 the main feedback points were as follows:

- **Most relevant topics for the target group:** Suggestion to swap content of week 2 with week 4; include text on 'open courses'; look at different ways of pitching/promoting the course.
- **Benefits for the target group:** a long list was collected with different benefits in a very broad domain (e.g. Innovation of learning tools and approaches, open mind and full acceptance of digital learning, upgrading digital skills, learn about MOOCs)
- **Potential challenges for the target group:** Timing of course within the academic year; course only currently available in English could be barrier to participation; familiarity with MOOC could vary; opportunities for peer-to-peer and community building limited.
- **Relevance of certification:** Diverse opinions on use of this type of certificate. Query regarding format/labelling and whether badging could be included.

- **Additional/MOOC specific remarks:** Positive response to reflective element of course with suggestions to add examples of reflective logs and for learners to share/make public their reflections, self-paced nature of course: tension between effectively tracking course engagement and sign-ups with making course completely open and requiring no sign-in

The following agreed changes were incorporated into the second iteration of MOOC 1:

- Addition of more interactivity (forums, quizzes), more sign-posting and “holding hands”, and text to connect weeks and encourage participants to continue on.
- Edited, added and moved course content and images, and rearranged weeks. The new iteration remains a reflective course but there are now more opportunities to share and interact with other course participants. Week 4, for instance is completely new and gets people to produce a very concrete something, so there is a definite output.
- Addition of more visual elements (videos, images) to make it less text-based.
- Course title changed to 'Digital skills, digital learning'
- Promotion strategy adapted accordingly
- Acknowledgements and course credits foregrounded.
- Agreement to facilitate this version of the MOOC during April-May 2018 period, to encourage more forum discussion.

For MOOC 2 the main feedback points were as follows:

- **Most relevant topics for the target group:** Majority emphasized the relevance of critical thinking skills, then problem solving strategies, followed by ideation methods and creativity as a lifelong skill.
- **Benefits for the target group:** the course can teach new ways of thinking, improve creativity and develop critical thinking skills. Useful for start-ups, spin-offs, being able to apply problem solving in daily life, improvement of contemporary key competence including learning from mistakes and failure, all transferable skills applicable in life and at work.
- **Potential challenges for the target group:** Major barrier indicated was anticipated lack of time among target group, followed by language barrier. Experts also recognized that the course skills are not applicable directly and visibly in the short term at work, companies do not honor MOOC certificates and students do not receive additional credits. Limited promotion – learners might not find out about the course.
- **Relevance of certification:** positive opinion about certificates, suggestion to also include badges.
- **Additional/MOOC specific remarks:** self-paced nature of the course received very positive feedback, as well as the reflective approach of the learning materials.

The following agreed changes were incorporated into the second iteration of MOOC 2:

- Better promotion; new and enhanced promotion campaign
- More guidance for learners; the team reviewed and improved the clarity of all instructions
- Re-work of platform to better allow group working activities

For MOOC 3 the main feedback points were as follows:

- **Most relevant topics for the target group:** Good examples and benefits of intrapreneurship; Stakeholder involvement, getting support and coalition building; Develop and present an idea/a convincing value proposition; Intrapreneurial tools; Changing culture, agile organizations; Increasing employee's intrinsic motivation; Converting problems & challenges into opportunities
- **Benefits for peers/target group:** Digestible knowledge on intrapreneurship; Staying up to date with an efficient and modern system of (self-directed) learning; Get inspiration and apply start-up thinking outside of daily work routine; Receive structured framework with innovation tools; Developing new skills and raising qualifications, Motivation/encouragement to implement new ideas; Finding new Business models and adding value to the company (x3)
- **Potential challenges for the target group:** for peers/target group for not enrolling or completing the course the experts predominantly pointed to lack of time. Other barriers were seldom mentioned and included: no permission from boss, language problems and lack of motivation.
- **Relevance of certification:** predominantly positive; 15 Experts stated that certificates add to the motivation of learners (one expert mentioned this is typically 30% of the learners), especially if connected with better job opportunities and recognition. For the rest of the experts, it is only a small driver which is worthless if there is no interest in the topic and motivation. One expert especially mentioned that in the German context, MOOC certificates are not HR relevant yet, but might become.
- **Additional/MOOC specific remarks:** Eight experts offered trainings enhancing entrepreneurial skills or behaviour to their employees so far (38%), thirteen not (62%), although one of the negative replies stated "I did not, except this one". 15 persons recommended a MOOC to their peers before already, seven not.

The following agreed changes were incorporated into MOOC3:

- strengthening the elements that provide short term benefits to the learners, such as offering a huge selection of intrapreneurial tools in an Intrapreneurship Toolbox
- different forms of certification have been introduced

- ask the learner's in our pre- and post-course survey if the certificate was a driver to get more insight in this topic. We evaluate the completion rate and analyse/compare the number of certificates per option.
- Introducing flexible pathways including a fast-track for people with limited time resources to overcome time problems.

To summarize, the 55 experts highlighted different parts of the MOOCs as being most interesting/beneficial/relevant for our target group and addressed missing points which helped us to fine-tune content, tailor promotion (highlight those things in our course advertisement) and define must-have content. Main barriers stated for all MOOCs were time and language. It helped us to put even more emphasis on this topic, by e.g. setting up different course paths or providing more language options. Next, the relevance of certificates provided no clear recommendation, but justified the taken approach of our MOOCs. In addition, we received feedback to the self-reflective nature of MOOC1 and MOOC2 and to the peculiarities of the business/intrapreneurship audience of MOOC3.

Overall, it must be observed that collecting feedback from experts such as representatives of the target group or those working with target group as well as topic knowledgeable individuals or on-line learning experts is a valuable practice. In the case of this project it allowed to modify some element of the course to better suit the needs and preferences of the target group. For future MOOC developers we strongly recommend this practice with two remarks: (i) the feedback needs to be collected well before hand leaving time to implement changes and (ii) the experts need to be carefully selected making sure that their input is based on significant professional experience and knowledge about the target group.

3.3.3 Results pre-course surveys with MOOC Participants

Before starting the course and after registration on the platform, all three groups of MOOC learners were asked to fill in a survey consisting of:

- learner profile questions (age, gender, country of origin, education, employment),
- question referring to experience with MOOCs (whether first time user)
- question about main reasons for taking the course (with possibility to pick more than one answer).
- and, as in the expert survey, MOOC developers were able to add questions specific to their target group.

Regarding overall assessment, the pre-course survey enabled to assess two important variables referring to the driving objectives of the BizMOOC project:

1. "Country of origin": enabled to verify to what extent the objective of promoting and popularizing MOOCs in countries with a very low rate of participation in the MOOC movement. This number can

also be contrasted with the course enrolment statistics providing information on countries of participants.

2. "Is this your first time taking a MOOC?" addresses the BizMOOC goal to spread the opportunities MOOCs represent among people who are new to the topic.

The developers assumed that the more they know about our learners the better, especially when the course is moderated, this information can prove to be very helpful in the moderation process. Additionally, the survey enabled to verify the effectiveness of promotion channels (with the question: where did you learn about this course?) and to verify whether the declared expectations of the target group are realistic to meet.

Below is an overview summary of the participant pre-course survey.

Table 6: Overview of the participant pre-course survey for 3 Pilot MOOCs.

	MOOC1	MOOC2	MOOC3
Number of pre-course participant survey results/relative to active users	21 (iteration 1)/13% 45 (iteration 2)29%	151/48% for both editions (all together)	674/34%
Male/Female	20% / 80%	55,7% / 44.3%	66% / 34%
Age	65% between 40-59	Even distribution: 20-59	30% between 30 and 39 29% between 20 and 29
Country of origin	75% from UK, Austria, Finland and Kazakhstan	46% from Latin America 33% from Spain	31% Germany, 14 % Austria, 13% Poland 6% North America, 2% South America
Education	15% without degree 35% bachelor 50% with Masters Degree	46% without degree Bachelor: 31,3% Master's degree: 22,7 %	30% without degree Bachelor: 22,8% Master's degree: 43 %
Employment status	60% full time employed	40% full time employed 14.7% part-time 17.3% unemployed 16% students	63% full time employees 10% part-time 4% unemployed 28% students
First time MOOC participants	47.6% (n=10) in iteration 1 pre-course survey.	34%	38%
Where did you find out about the course?	40% from friends/colleagues	28.5% via MOOC aggregator 11.9% Previous courses on the platform 11.3% social media 11.3% search engines 6% BizMOOC website	Diversified: 22% through newsletter, 21% other, 20% university website, 17% friends/colleagues, 12% former platform users.

Again, we first present a concise summary of each individual MOOC, followed by an overall reflection. The extensive survey evaluation of each MOOC can be found in the individual MOOC evaluation reports (see Annexes).

MOOC 1 pre-course survey results (iteration 1):

- **General information about participants:** 80% of respondents were female (n=16) with 65% of participants reporting themselves as in the 40-59 age groups (n=13). Over three quarters of respondents came from four countries: the UK, Austria, Finland and Kazakhstan, which are partner countries of the developers, part of their network. 15% (n=3) of respondents reported that they held no degree qualification whilst over 50% (n=10) reported their highest achievement as a Masters degree. Whilst the majority of survey respondents were in full-time employment (60%, n=12) a range of MOOC 1's target audiences (e.g. the unemployed and students) also responded to the pre-course survey.
- **First time MOOC participants:** 47.6% (n=10) in iteration 1 pre-course survey.
- **Where did you learn about the course?** Over 40% of respondents reported finding out about the course from friends/colleagues (n=9). Whilst the sample size is too small to generalise, this tentatively suggests (along with the other top three sources of finding out about the course, the university website and/or social media and more specifically the BizMOOC website) that personal recommendation and trusted sources were important factors for our respondents in choosing to participate in the MOOC. Another important reflection is that the majority of respondents were not reached directly via the communication and promotion channels of the project.
- **Reasons for taking the course:** The top three "main expectations" from participating in MOOC 1 were to "improve my skills" (71.4%, n=15), "learn new things" (66.6%, n=14) and "to see what MOOCs are" (52.3%, n=11). Half of respondents reported that this was their first time participating in a free online course (n=10).
- **Additional MOOC specific questions:** All sections of the course were perceived as potentially being either 'very useful', 'quite useful' or 'useful' by participants when they were asked about their perception of the course content. The exception to this was week 1 of the course which was regarded as potentially "of little use" by 9.5% (n=2) of participants who participated in this pre-course survey.

MOOC 2 pre-course survey results:

- **General information about participants:** The age distribution is normal within the central age groups (20-29, 30-39, 40-49, 50-59) while it reduces in extreme values in both sides (under 20 and over 60). Gender distribution is slightly uneven (male participants: 55,7% while female: 44.3%). More than 46% of the participants were from Latin America and 33% from Spain. Participants from Eastern Europe were in minority. Most of the MOOC participants were "Employed full time (35 or more hours per week)" – 40%, while the majority have University level of study (Bachelor: 31,3% and Master's degree: 22,7 %).
- **First time MOOC participants:** 34%

- **Where did you learn about this course?** Out of 151 participants in the survey, more than 50% of the respondents indicated that they found out about this MOOC through a MOOC aggregator (example are ClassCentral or MOOCList), search engines, social media or previous courses on the platform. The large participation in the Unimooc platform facilitated the dissemination of this course as over 40% of the participants in the survey were informed about this MOOC through one of the dissemination channels of Unimooc. It could be stated thus that previous experience in the courses offered through this platform was key factor in the dissemination and/or participation in Pilot MOOC2.
- **Reasons for taking the course:** 74,2 % of respondents declared they hoped to improve their skills and 72,8 % to learn new things. 54,3 % of respondents intended to improve their “career options, maybe even get a (new) job” and finally 47,0 % picked the response: “I have a general interest in the topic”.
- **Additional MOOC specific questions:** More than 90% of participants consider themselves as creative persons (yes 62.9%, to some extend 27,8%). 94% of participants enjoy problem solving (yes 72,5%, to some extend 21,5%).

MOOC 3 pre-course survey results:

- **General information about participants:** The largest age group in this MOOC were learners between 30 and 39 years (30%), closely followed by those between 20 and 29 years (29%). We conclude that the domineering group was young business professionals. When we take a closer look at the highest level of study our target group has completed so far, we notice that the major part (43%) have a Master’s degree, followed by those with a Bachelor’s degree (23%). 63% are full time employees, 10% part-time, 4% unemployed, 28% students and the rest are Homemakers, retired or have another status which was not mentioned. More than 42% have more than 10 years of experience in business and only 20% no business experience. The largest employment sector was IT (36%), followed by Engineering (14%) and Marketing (13%). Position-wise, the largest group were mid-level Managers (18%), followed by low-level Managers (15%), and analysts (15%).
- **First time MOOC participants:** 61% of the participants said that they have already participated in a free online course before, for 38% it was the first time
- **Where did you learn about this course?** The vast majority of the respondents found out about the course through newsletter, university website or other (each over 20%). 12% of participants were former platform users.
- **Reasons for taking the course:** 86% of respondents declared they joined the course “to learn new things”, and 83% to improve their skills. 56% were hoping to improve their career options. It is good to see that 28% of respondents were joining the course to try online education.

- **Additional MOOC specific questions:** Most of the learners said that they were not or only a little familiar with intrapreneurship: For 43% the topic was new, 42 % said they have read about it, but not experienced it in their organization, yet. As the course was meant to be an introductory course for beginners, we are satisfied with this finding as it shows we have reached the people we have looked for.

Participant pre-course feedback concluding analysis

For the development teams, it was valuable to see that a high number of people with no prior MOOC experience have taken part in the MOOCs: 34% for MOOC 2 and 38% for MOOC3. In addition, approx. 2/3 of participants in our MOOCs had some sort of degree (from bachelor to PhD), but approx. 1/3 had no degree. The educational level is slightly higher than in comparable studies (e.g. Shah, 2017: 2,500 MOOC learners surveyed, 45% without degree), which might be explained by the business audience we have been targeting with our MOOCs. Interestingly, we expected the educational level to be lower in MOOC1 which shall serve as introductory MOOC course, but this was not reflected in the survey (of course considering that the sample size of MOOC1 is small).

The results of the survey suggest that the target of reaching Eastern European countries has been met to a large extent; MOOC 1 hosted learners from Kazakhstan (thanks to institutional networks), MOOC 2 from Bulgaria (so as two designers) and MOOC 3 a significant number of learners from Poland (so as one designer). In total, it can be stated that participants from all Eastern European countries have been reached by at least one MOOC.

Overall, it must be first noted that MOOC1 recorded low levels of participation in the pre-course survey and it is difficult to draw conclusive observation from MOOC 1 results. From the information we do have, we can assume that all three MOOCs did reach their target groups, yet to a different degree. MOOC 1 was targeted at employed people intending to gain digital skills and unemployed or students looking to gain new skills to raise their employability. As 40% of the respondents did not have full time employment, this seems to reflect the intentions of the developers. A similar target was identified for MOOC 2, however with a geographic orientation toward South America (MOOC 2 team developers University of Alicante had the specific assignment to involve their large Latin American network for a wider impact of the BizMOOC project). As a result, nearly half of MOOC 2 participants were from South America. For MOOC 3, the target group was business professionals and this target has been clearly reached. More than 42% have had more than 10 years of experience in business and only 20% no business experience. The largest employment sector was IT (36%), followed by Engineering (14%) and Marketing (13%). Position-wise, the largest group were mid-level Managers (18%), followed by low-level Managers (15%), and analysts (15%).

In terms of gender distribution, we see a surplus in male participation (except for MOOC1, where it is completely the opposite, but the sample is not representative). As we did not ask further questions in that direction, we can only assume that the innovation topics of MOOC2 and MOOC3 attracted more male than female learners in combination with the dominance of MOOC participants in our courses with IT background. This is also in line with observation from the (especially tech) start-up scene, which is strongly dominated by male founders. This area should be furthered in follow-up initiatives, as especially educational and massive formats such as MOOCs could be a door-opener to a stronger involvement of women in entrepreneurship.

The participants who responded to the pre-survey were largely self-motivated to improve their current skills and knowledge. These pre-survey findings indicate that learners responded positively to the courses' content and were expecting predominantly to: learn new things, acquire new skills, improve their career options and try to learn with MOOCs. This corresponds to the Society Survey conducted in WP1 of BizMOOC project, where 40% of the sample are using MOOCs for acquiring new information/knowledge and new skills online (<http://bizmooc.eu/needs-and-gaps-to-moocs/report-society/>). This is also in line with recent studies published by Class Central, where 50% of learners in 2017 came with the intention to upgrade their skills, 42% of the courses addressing an audience called "professional lifelong learners" with clearly career-related motives and business MOOCs taking a prominent part as MOOC key trends (Shah, 2017a, Shah, 2017b & Shah, 2018).

To some extent the survey can assess the effectiveness of the promotion strategy of the three teams. While MOOC 1 and MOOC 2 participants found out about the course mostly from friends, MOOC 3 participants were reached by Newsletter, MOOC platform and University website. For all MOOCs institutional networks of the developers were important for outreach (e.g. Bulgaria and Poland). The latter channels proved to be more effective, as MOOC 3 noted the highest number of participants. As the MOOC3 development team was the largest in terms of partners and the partners brought in large and diverse networks, the diversified promotion strategy is reflected by the survey.

3.4 Review after the MOOCs

The post-course evaluation process consisted of two feedback streams: 55 experts and MOOC participants. The process was intentionally designed to mirror to a large extent the pre-course evaluation. Therefore, both experts and MOOC participants were addressed with the similar issues as in the pre-course survey. This enabled the verification of expectations of both experts and regular participants and the developers were able to gain insights into which the particular element of the course that proved to be effective. The goal of the post-course evaluation was therefore to assess the effectiveness of the MOOCs in terms of meeting participant expectations, providing valuable content and learning experience.

Table 7: Key statistics for post-course evaluation of three Pilot MOOCs.

	MOOC 1	MOOC2	MOOC3	TOTAL
Number of external experts post-course feedback (number of online focus group sessions)	17 (5 focus groups)	17 (5 focus groups)	21 (5 focus groups)	55
Number of learners (survey)	9	19	381	409

3.4.1 Results Feedback from 55 External Experts

Again, we first take a look at each MOOC by summarizing main results across the same main dimensions (the full extensive evaluation of each MOOC can be found in the respective MOOC reports), before reflection on a general level across all MOOCs.

Summary of Post-Course expert feedback for MOOC 1:

- **Most relevant topics for the target group:** How relevant they found the course topics varied greatly according to experts' interests, roles and backgrounds. While some highlighted Week 3 (about learning with MOOCs) as the most useful, others preferred Weeks 1 and 2, as these sections provide a sort of scaffolding for the learner. It was interesting to see how experts in the focus groups suggested audiences we had not intended to reach in the first place, i.e. educators interested in setting up a MOOC, or OU students wanting to self-assess their digital skills ahead of starting a paid-for course.
- **Benefits for the target group:** MOOC 1 was considered beneficial by both sets of focus group participants, in particular for a range of levels of students in Higher Education. OBESSU's Work

Plan includes Education for the 21st Century and the course was viewed as particularly relevant for the digitalisation focus of this strand of work. Developing strategies and using tools such as SMART goals as well as being able to reflect on one's own progress and experiences were viewed as extremely positive and relevant to life-long learning with far reaching benefits beyond just participation in MOOC 1.

- **Potential challenges for the target group:** It was suggested that the platform itself (OpenLearn Create in this case) could be an immediate turn-off for learners if asked to provide personal information before having access to the course content. Another barrier was course identification: the course was not easy to find; not obvious what search terms could learners use. The self-study aspect of the course was said to be likely to appeal to those learners who are confident studying on their own, but at the same time it was pointed out that there are others who prefer to have a study buddy, or be part of a cohort of students. Experts also mentioned the language barrier.
- **Facilitating wide scale uptake of this MOOC:** making the enrolment process easier would be of benefit. Adapt and localize the content as they see fit and create their own versions of the course, on whatever platform, in whatever language.
- **MOOC originality/similarity to existing offerings:** rather not know
- **Popularization of MOOCs:** The role of universities in facilitating a thorough and contextualised understanding of the role of technology was also highlighted as critical.

Summary of Post-Course expert feedback for MOOC 2:

- **Most relevant topics for the target group:** Most experts specified that the introduction and motivation module is a good starting point while critical thinking and problem solving are the most relevant topics. There are also several remarks on ideation methods and the introduction to IP.
- **Benefits for the target group:** According to the results of the post-course survey, pilot MOOC2 seemed mostly beneficial. Despite the low rate of responses among the participants (sample of only 18 responses), over 72% stipulated that their creativity capacities were improved during and after the MOOC focused on idea generation. Moreover, over 83% are more motivated to have their own ideas and make them work. A vast percentage is more confident to share and discuss their own ideas with other people (77.8%) and 83% considers their problem solving skills were improved. Maybe the relevance of ideation methods and critical thinking might justify this result as well as the prominence of improving the ability to learn in positive from failure experience (66.7%).
- **Potential challenges for the target group:** the main barrier identified was language (although subtitles were much appreciated). Another barrier was the fact that MOOCs do not have recognition among firms and lack of the (country/state) regulations. In Latin America context

two main barriers were: lack of awareness of the existence of this kind of courses and poor access to technology or even internet connection.

- **Facilitating wide scale uptake of this MOOC:** Yes, but with content improvement, more specific, less general information, content adaptations depending on the specific target audience, local language content translation should be available for some audience/countries.
- **MOOC originality/similarity to existing offerings:** rather yes: it is an initial training in the subject
- **Popularization of MOOCs:** production/platform costs have to be reduced, the MOOC must fit into the company training program, providing users with more formal recognition: students with ECTS points and business community with recognition that counts at work.

Summary of Post-Course expert feedback for MOOC 3:

- **Most relevant topics for the target group:** Most experts found the intrapreneurial toolbox of most value and applicability. They all agreed that learning about the concept of intrapreneurship along with best practices and real life examples is extremely valuable for the target group as it can transform the mindset and help build a new corporate culture.
- **Benefits for the target group:** all experts agreed that the content was very beneficial for the target group, to update the company's business model, gain a new management perspective and stay up to date with business trends.
- **Potential challenges for the target group:** All experts mentioned time limitations. Some added unawareness among business professionals about the opportunities to learn with MOOCs. Other experts mentioned that a MOOC requires good time management and self-discipline which is not always the case, daily work often wins and working environment often may not enable and support learning with MOOCs during working hours.
- **Facilitating wide scale uptake of this MOOC:** Definitely yes, but needs to be aligned/adapted to company standards or training plans and presented to talent development managers. Some experts expressed their opinion that this MOOC would be much more beneficial and attractive if completed only among the participants from one company.
- **MOOC originality/similarity to existing offerings:** all experts agreed that this MOOC is very competitive, very new, very fresh and better than company training programs on similar topics.
- **Popularization of MOOCs:** requires raising awareness about MOOCs among HR managers and employees, changing the company culture, opening up to online learning, employees must be encouraged and supported, provided with time to learn through MOOCs, face to face sessions on top of MOOC learning would be very beneficial.

The discussions in focus groups were in general very informative and brought up key insights. The experts voiced which elements of the course were of high quality and provided numerous valuable suggestions on how to improve the courses and their uptake. This way, the post-course feedback led to identify best

practices and lessons learnt and, ultimately, to formulate the final recommendations, and thus fulfilling an important goal of the BizMOOC project (see Report 4.3 Lessons Learnt, Recommendations and Good Practice).

Looking back at pre-course feedback by 21 experts, it can be observed that the expectations were met with regards to content and expectations from the target group. All MOOCs presented their target groups with tangible benefits. This suggests that the relevance of the topics of the three MOOCs was high and that there was a “fit” between the MOOC topics and the target groups. The experts highlighted specific topics (e.g., the toolbox and practical relevance for MOOC3) and MOOC1 even re-designed one week of the MOOC for their second iteration 2 to strengthen the benefits for the target groups. Further, also unexpected target audiences have been reached (e.g., in MOOC1 educators or people self-assessing their digital skills, in MOOC3 consultants). All 3 MOOCs were seen as beneficial for the target groups by the experts, beyond just participation (self-reflection) especially in MOOC1 and MOOC3.

The barriers were also confirmed: time and language were identified as the main barriers by all focus group experts. Other barriers were the MOOC platform in MOOC1 (enrolment process) and MOOC2 (interactive elements), how to find the course (esp. MOOC1 and MOOC2) and the self-study aspect was not as appreciated as in pre-course feedback: Moderation and support was observed as being more important than expected by the experts, if the MOOC learner does not have a high self-discipline. For some areas (Latin America, partially Eastern Europe) poor access to technology or even internet connection were also barriers.

Three additional discussion areas were added in the post-course expert evaluation focus groups. First, the experts assessed MOOCs as competitive to similar offerings after having the experience of the Pilot MOOCs as part of the BizMOOC project. Next, the experts were asked on their opinion if they see possibilities to offer this MOOC at a larger scale and what issues are critical for a wide scale uptakes of MOOCs in general. They issued some smaller issues (convenient and fast enrolment process needed, esp. MOOC1 and bringing in local examples in MOOCs to increase the regional identification) and larger issues such as recognition (especially by companies!) and content adaption to company standards/training plans. These are relevant issues for WP Exploitation of the BizMOOC project. Finally, when it comes to popularization of MOOC in the world of business in general, the expert mentioned the important role of universities to raise awareness among business decision-makers, that production and platform costs are still too high for some organizations (e.g. state owned universities). It seems many organization do not realize that although development costs of online courses are higher than on-campus, operational costs per student/employee are much lower. Hence training large numbers of people can actually become more cost effective thanks to MOOCs.

In general, the post-course feedback was much more extensive and comprehensive than the pre-course feedback, the experts were able to deliver specific hands-on feedback after taking the course and suggest ways for improvements to enable scaling. Different approach (focus group versus open online questions) proved to deliver more information. The insights from these stream of discussion were valuable to formulate additional recommendations. As stated, those additional findings are presented in a separate report on Lessons Learnt, Recommendations and Good Practice (R4.3).

3.4.2 Results post-course surveys with MOOC Participants

It important to note that the participants who filled in the pre-course survey were not the same set of individuals as those who filled in the post-course survey, as we can see from the discrepancies between participant profiles in pre- and post-course surveys. The post course survey results delivered information to fine-tune the profile of the MOOC participants and create a more complete picture of who they were and how they benefitted from the learning experience. We discussed whether to identify upfront a (much smaller) set of participants who would give us both pre- and post-course feedback, but then decided that we will get this perspective already with the expert (qualitative) review process and that we prefer to have a larger and more representative (quantitative) sample with this open feedback approach.

Table 8: Overview of post-course participant survey results for three Pilot MOOCs.

Indicator	MOOC1 (iteration 1)	MOOC2	MOOC3
Number of post-course participant survey results	9 (both editions)	19	381
Male/Female	29% / 71%	N/A	66% / 34%
Age	65% between 40-59	Mostly students	30% between 30 and 39 29% between 20 and 29
Did the course meet your expectations?	fulfilled	72% fulfilled	Fulfilled (44%) and completely fulfilled (34%).
Length of the course	Appropriate	70% just right	Appropriate (largest category with 38%)
Level of difficulty	57% just right 43% easy	82% just right	Just right (57%), 25% easy, 11% difficult
Quality of course materials	Majority as very good	66.7% excellent, 33.3% very good	Excellent (33%) and very good (50%)
Practical applicability in real life	55% high or very high	75% high or very high	86% high or very high
Role of certification	85% as motivating	83% as motivating	78% as motivating
Overall opinion about the course (mixed indicator > course rating and recommendation)	Majority assessed as excellent or very good	Majority assessed as excellent or very good	Majority assessed as excellent or very good

After shortly summarizing the results to each MOOC (the full extensive evaluation of each MOOC can be found in the respective MOOC reports), we reflect on a general level across all MOOCs and with the pre-course survey.

Elaboration of participant post-course feedback for MOOC1:

- **General aspects:** 71.4% of respondents were female (n=5) with the majority of respondents advising they were between 20-29 years old (57%, n=4). Respondents came from 4 countries: Kazakhstan, the UK, Austria and Romania. All those who responded to the post-course survey were either students or in full- or part-time employment. 6 respondents had at least one higher education qualification with the remaining respondent reporting “some college but no degree”. The roles of participants in the post-survey were narrower than respondents to the pre-survey and are in line with research on MOOC participant demographics. For the majority of post-course survey respondents, this was their first experience of a free online course (71.4%, n=5). This is similar to pre-course results, no major findings.
- **Expectations met and evaluation of the course:** All post-survey participants reported that their expectations for the course were “fulfilled” and that the length of course material was “appropriate” (n=7). 57.1% of respondents (n=4) advised that they had spent between 3-6 hours a week (e.g. more time than the required 3 hours) working through the course material. Although we cannot be certain as to why this was the case, given that all post-survey participants advised that the length of the course was “appropriate” we can surmise that participants were keen to spend longer than required to participate, rather than the anticipated time of 3 hours a week being insufficient to engage with material. All participants regarded the course as either “excellent”, “very good” or “good” with regard to “understandability” or clarity of course content. All respondents also reported that they would participate in another BizMOOC course and would recommend BizMOOC courses to others (100%, n=7). 85.7% of survey participants (n=6) advised that they would recommend *Learning with MOOCs* to others with the same respondents advising they would also like to see a follow-up course. The difficulty of the course material was regarded as “just right” by 57% (n=4) of learners and “easy” or “very easy” by the remaining post-survey respondents (43%, n=3). By and large respondents perceived that what they had learnt in the course would be applied to “real life” with over 55% of respondents advising that the “a lot” or “quite a lot” of what they had learnt from the course was relevant and would be used (n=4). Whilst the majority of respondents scored the course favourably on a range of different measures, one respondent consistently scored the course negatively (e.g. the quality of activities and materials as “poor”). The course also appeared to impact positively on the respondents who chose to share the impact the course had on their online learning. We received three comments from learners who highlighted how the self-paced nature of the course, the

material itself and “systematic” design were all positive features of the MOOC. In particular the latter comment highlighted that MOOC 1 offered a different online learning experience and a more positive one than their previous experiences.

Elaboration of participant post-course feedback for MOOC 2:

General aspects: Despite the high rate of new users of this kind of learning materials, i.e., MOOCs, the expectations regarding pilot MOOC2 were highly fulfilled for the participants in the post-course survey. The rather small sample compared to the pre-course survey does not allow us to get to conclusive results.

Expectations met and Evaluation of the course: Course expectations were highly fulfilled (72.2%) counting with a high rate of first time users of this kind of courses - MOOCs (66.7%). Both materials and activities quality rate are rated very good or excellent. However, it is worth mentioning that course materials have a better evaluation (66.7% excellent) than course activities (38.9% excellent). Thus, course activities do not seem to completely fulfil the expectations and could be improved. This might be linked to the expectations of a cMOOC that had to be transformed in a traditional xMOOC due to the still half-prepared technology and low participation of the ones enrolled. The high rate of participants completing the course (among the respondents) argued that the certificates and/or module badge was an important motivation to finalize at least the parts they were interested in. The length of the course, degree of difficulty and understandability were rated as excellent or very good summing over 80% of the responses. While just 65% students were interested in a continuation of the course, all of the received feedback would recommend this course or other course from BizMOOC and would participate in other BizMOOC courses.

Participants feedback shows they improved skills on the main course topics.

Elaboration of participant post-course feedback for MOOC 3:

General aspects: Learner demographics have not been evaluated in the post course as we have additional data from the enrolment statistic. They clearly reflect and confirm the pre-course survey results, e.g. with the majority of participants coming from Germany, Austria and Poland. The concentration on those three countries could be explained that the course developers stem from those countries and that they have activated their regional networks. But it also has to be stated, that the MOOC reached participants from 98 (!) countries in total which reflects the successful diverse promotion channels and efforts.

Expectations met and evaluation of the course: The expectations for the course were fulfilled (239 out of 306 stated 4 or 5 (5=completely fulfilled)). Most of the participants said that they could use the learned competencies at work (59% rated 8 or more out of 10 with 10= “This will help me extraordinarily”), and that especially the toolbox was extremely useful for their work. This was one of the largest expectations before course start and they could be reached.

The major part of the participants (47%) rated the quality of the course with 4 out of 5, 27% even said the quality was excellent (5 out of 5). Furthermore, we asked the learners to rate the difficulty of the course.

The major part (57%) gave it a 3 out of 5 which means to us that the difficulty was just right - not “very easy” neither “very difficult”.

Participant post-course feedback concluding analysis

In general, the post-course survey confirmed that the expectations of the target groups were met, which suggests that the target groups were optimally selected to fit the topics of the course. Speaking about the length of the courses (from 4 weeks up to 7 weeks, 3-5 hours per week study time), it was appropriate for the learners – also the level of difficulty for all courses. The practical applicability was also evaluated positive, as requested by the learner beforehand.

Reflecting on the time barrier on a general level might be misleading, as those who were answering the post-survey probably made it through the full course and those with major time barriers may have dropped out before – therefore, not many of them are part of the post-survey. Still, it can be reflected that for those getting involved, our course length was deemed appropriate. This might partially contrast and enrich the current discussion of even shorter MOOCs and modules promoting the trend of micro learning.

Some learners explicitly mentioned the self-paced nature of the course (MOOC1) as positive, while post-expert’s feedback suggests that learners with a higher self-discipline might appreciate also more autonomy/flexibility when it comes to learning. In general MOOCs are more suitable for self-directed learners and there is a difference between required skills in self-paced MOOCs compared to scheduled MOOCs.

The evaluation of the courses was highly positive and gives us the impression that learner expectations have been met. Of course, we have again to take into consideration that we have not covered many course drop-outs with the post-course survey. Their feedback and reasons might be especially insightful. It might be interesting to integrate a feedback mechanism in MOOCs to ask learners which un-enroll or did not show up for a long time in the MOOC to answer 1-2 questions for their reasons to do so (similar when you return online purchase items).

We can generally observe a large overlap between the pre and post participant survey results. Taken that the three were not addressing the same set of individuals, this is good signal for the developers.

On top of the structured feedback collection via surveys and focus groups, the teams have also collected different formal (course statistics) and informal (self-reflection, analysis of activities, forum discussions, informal feedback etc.) observations, which feed into result 4.3: Recommendations, Lessons Learnt and Best Practices.

4. Reflection On KPIs and Informal Feedback

Besides the extensive qualitative evaluation of the MOOCs, we are coming back to the overall quantitative indicators at the end of this report to reflect on their achievement on a general level for the project. The following table presents the overview of the key performance indicators aimed at in the project application and their fulfilment as of October 2018.

Table 9: Overview to the key performance indicators and their fulfilment by M31 (October 2018)

Performance indicator	Target	Result	Rating
First Pilot MOOC ("Learning to learn") completed	By M26 (End of February 2018)	M23 (November)	✓
The other 2 Pilot MOOCs completed by M29	By M29 (End of May 2018)	M28 (April 2018)	✓
Registrations for the Pilot MOOCs	Min. 5.000	5.499 (110%)	✓✓
Participants ("active users") for the Pilot MOOCs	Minimum 4.000	3.877 (97%)	✓
Participants to give extended feedback before MOOC implementation	Min. 90 before course, min. 110 after the course	891 before the course 409 after the course	✓✓✓
E-certificates /recognition of the Pilot MOOCs (from Certificate of participation to completion on different levels)	for at least 500 participants	527 certificates of participation, 657 badges, 428 certificates of completion	✓✓✓
External experts to give extended feedback before MOOC implementation	Min. 55	55	✓
Additional MOOC participants from Latin America through the network of P4 (ES) – UA	No specific KPI	MOOC2 and MOOC3	✓
1 comprehensive Evaluation of Pilot MOOC conducted (by M31)	1 report by M31 (August)	4 reports: 1 comprehensive plus 3 comprehensive individual reports by M33	✓✓

As the table indicates, all KPIs except one have been reached or over-reached, with one indicator significantly over-reached. This could be explained that the target for this indicator (learner feedback) was set rather conservative (low) and that the potential and pro-activeness of MOOC learners have been underestimated – especially of MOOC3 participants which had more time to fill in the pre-course survey. On the other hand, the participants ("active user") number was highly optimistic, especially taking into consideration our high ratio between active users/enrolments which was estimated at 80% (4000/5000). Active user ratios (total enrolment minus no shows) are nowadays around 60% in MOOCs. We have

reached 70% with our MOOCs. We are positive that we will also reach the final KPI of 4.000 active users by the end of the project with the courses still available in self-paced mode (only 123 or 3% missing). Also, in terms of certificates, we have far overreached our targets and all deadlines have been kept, or have been . On balance, the overall impact created by the Pilot MOOCs exceeded the expectations of the project team. Not only the numbers (such as enrolments, different countries, completion rates, active contribution, certificates etc.) outlined a strong support for the objectives and relevance of the BizMOOC project, but also the qualitative feedback undermined the potential MOOCs bear in benefitting professional lifelong learners on a large scale.

Therefore, the BizMOOC team would like to hand over the floor at the end of this report to the main actors – the learners and present some of the received informal feedback quotes collected from the MOOCs:

"It was comfortable for me, because I chose time to learn myself."

"Just to let you know: good course, giving impulses for further reading."

"Great course! I want to improve my professional and personal skills!"

"For myself it was amazing to learn about intrapreneurship. I really wasn't aware of this topic. It was super interesting to combine so many methods with this topic and read about the experiences from the other participants."

"I talked about the MOOC a lot because I learned so much. And I always took my scribbled notes with me and tried to use some methods in my work."

"I loved it! And I loved my badges and percentages of what I've already achieved. I loved the people who made it till the full track. They were present in all communication and collaboration channels and it was fun to „talk“ to them."

5. Discussion and conclusion

The Quality Assurance and evaluation process was carried out using a sequential mixed-methods approach and proved to be a beneficial approach for the delivery process. This report indicates the critical role and importance of having pre- and post-course evaluation based on existing quality standards, as it was done in the Design Review phase by two external evaluators and two MOOC teams. This process allowed a first check of compliance with MOOC general standards. Benchmarking against already existing standards and proven to work practices is important for continuous improvement of the content and delivery of MOOCs at large.

Additionally, all three MOOCs have been subject to evaluation by experts deriving from key target groups (business and higher education sector) still before their launch. Those streams of feedback produced valuable inputs and enabled to introduce further improvements in the MOOCs. It must be noted however, that in future projects it is critical to secure enough time to incorporate reviewers' comments before the launch of a MOOC. It was unfortunately not enough time to implement all recommendations for the first iteration of MOOC1 and MOOC2. This time control is very much valuable especially for those MOOC teams with not much experience in MOOCs or with limited knowledge about the target groups.

The pre-course participant survey was a valuable step in the implementation process as it revealed the expectations of the participants, their preferences and anticipated barriers. All these aspects are important to the successful implementation and delivery of the course.

The work package outcomes (resulting on WP3 and WP4 in BizMOOC which design, implement and evaluate the Pilot MOOCs) presented in this report strongly suggest that having a mix of qualitative and qualitative evaluation methods is necessary. The qualitative post-course focus group sessions with experts were very valuable, as through sharing opinions directly, they produced numerous recommendations and suggestions for dissemination and exploitation of the three pilot MOOCs. In reference to Figure 1 (p. 27 of this report), we believe that introducing qualitative methods to pre-course survey feedback could yield richer results.

WP4 has also confirmed the importance of monitoring of participants' progress during course and general course statistics. These can become valuable learning analytics for MOOC developers. For MOOCs, analysis of participants' activities and of forum discussions is an invaluable source of informal feedback as well.

The key deliverable of this research (which was carried out as WP4 of the BizMOOC project) was to verify the effectiveness of various MOOC approaches for the world of business. The report presents the outcomes of WP4 in regard to this goal.

1. MOOCs present a potential opportunity for business organizations to upgrade employee skills, gain new organizational knowledge and exchange knowledge with other institutions such as universities;
2. Uptaking of MOOCs by business organizations can create substantial value added for business, as well as for the business environments as a whole by connecting people and organizations, creating new networks, exchange, learning loops and ultimately new social capital. This can only be achieved if organizations, not only individuals engage in MOOCs (both participation and creation);
3. The exploitations of these opportunities is in its cradle. In general, businesses are not aware of possibilities that MOOCs represent, although individual employees do engage in MOOCs on their own;
4. Findings of this report confirm that individuals, once engage in MOOCs, confirm their usefulness and learning value. All participants of the 3 Pilot MOOCs were highly satisfied with the results of the MOOC they completed;
5. Along WP4 three different types, MOOCs were created in three different teams, different modes , different approaches, different resource investment and with different content. All three MOOCs were able to deliver satisfactory completion rates, above average on the MOOC market. The overall and most important conclusion in regard to MOOC format is that moderation and originality of learning content raise the value of the course to the learners;
6. Taken that the 3 Pilot MOOCs tested different formats, WP4 outcomes include conclusions regarding factors that can raise the quality of the MOOC:
 - The choice of MOOC platform is an important choice and requires research. It is advised to choose a platform relevant to the target group and at best a platform with a strong and proven to work outreach. The MOOC platform was an important if not key element of the promotion campaign for the three Pilot MOOCs, especially for MOOC 3, which produced the highest number of participants. Nevertheless, MOOC2, taking advantage of the Unimooc platform previous users, contributed to increase considerably the number of pilot MOOC users (over 38%);
 - It is critical for at least some team members to understand the technology behind MOOCs, learning design and quality dimensions before starting designing and developing. The experiences gathered in the BizMOOC project also confirm that considerable knowledge and expertise in the subject matter of the course is essential. It allows for the production of original materials and enhances the quality of the MOOC;

- As for the certification schemes (from single type certificates to a wide range of certification choices available for learners), all post-course survey results assessed the certification as motivating. On top of that, MOOC 3 offered numerous certification options, which is a factor which could have contributed to the large number of participants and higher retention rates;
- The mechanisms of learners' work assessment varied from simple self-check quizzes to more advanced forms of assessment including peer-to-peer feedback loops. MOOC 3 with the most elaborate system of assessment produced highest retention rates (20%/25%/60% depending on track vs 10% in MOOC 1), which suggests that richer assessment contributes to higher rates of completion;
- Dedicated moderation applying an e-moderation approach and a team of facilitators in MOOC3 was another differentiating factor, which could have contributed to higher participation numbers and higher retention rates. Moderation encourages engagement and provides opportunities to connect with the developers, which makes the course more personal;
- It is an intentional strategy to start with the most general, introductory MOOC (digital skills), follow with more dedicated to creativity and innovation and end with the one dedicated to the narrowest out of the three topics (intrapreneurship) to allow participants to follow more than one MOOC. However, there is no proof that the participant groups overlapped, because of data security regulation not allowing to track learners across platforms. However, learners stated high interest in following and recommending other BizMOOC courses in the surveys which could lead to the conclusion that some learners followed more than one course.

The fact that the three Pilot MOOCs resulted in three very different levels of participation and completion can be considered a limitation to the findings of this report (table 3). The results can be biased due to the fact that we received many more participant surveys from MOOC 3 participants, less from MOOC 2 and very few from MOOC 1 (tables 4 and 6). Thus, the inference was carried out based on analysis of information which had unequal representation between the MOOCs. The fact that three different formats, designs, topics and contents were compared can also be considered to some extent as a limitation. However, having acknowledged the above, it is assumed that this report presents important findings which this work package and the BizMOOC project in general was able to deliver.

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Annex 1: Individual MOOC Evaluation Reports

Download links:

- R4.2a Evaluation Report on Pilot MOOC1 – Learning to Learn [\[Link\]](#)
- R4.2b Evaluation Report on Pilot MOOC2 – Innovation, creativity & problem-solving [\[Link\]](#)
- R4.2c Evaluation Report on Pilot MOOC 3 – Intrapreneurship: Make Your Business Great Again [\[Link\]](#)

Annex 2: Lessons Learnt, Recommendations and Good Practice

Download links

- R4.3 Lessons Learnt, Recommendations and Good Practice from Pilot MOOCs [\[Link\]](#)
- MOOC BOOK: www.mooc-book.eu [\[Link\]](#)