



**moonlite**  
MOOCs for Social Inclusion & Employability

## **Cost-Benefit Analysis of MOOC Provision**

Sustainability Report for the  
Spanish National Distance  
Education University



[www.moonliteproject.eu](http://www.moonliteproject.eu)

A large, light blue circular graphic on the left side of the page, consisting of a thick ring that is partially cut off on the left edge.

## Authors

Timothy Read, Beatriz  
Sedano Cuevas

## Copyright

(C) 2019, Moonlite

# 1. Table of Contents

1. TABLE OF CONTENTS.....	3
2. INTRODUCTION .....	4
3. SCOPE .....	5
4. PURPOSE.....	7
4.1. TARGET GROUPS .....	7
5. OVERALL GOALS.....	8
5.1. FINANCIAL GOALS .....	8
5.2. SOCIAL GOALS.....	8
6. PROMOTING SOCIAL RESPONSIBILITY .....	9
<i>Approach</i> .....	10
<i>Activities</i> .....	11
7. DISCRIMINATION AND VULNERABLE GROUPS.....	15
<i>Approach</i> .....	15
<i>Activities</i> .....	16
8. CONCLUSIONS AND FUTURE DIRECTIONS .....	19
9. SOURCES CONSULTED IN THE PREPARATION OF THIS REPORT .....	20
10. REFERENCES.....	21

## 2. Introduction

The purpose of this tool is to allow for a triple-bottom line cost-benefit analysis to be done on a MOOC and/or digital learning programme.

UNED has a long history of developing and deploying educational services and software. Since the university has been running online courses for more than twenty years there is documented experience of how to scaffold students' learning, in different studying contexts, so that engagement is maximized and motivational levels are maintained online. Some of these approaches are relevant to the MOOCs being developed at UNED for the MOONLITE project.

It should be noted, however, that for a MOOC to be deployed and run on the institutional platform a proposal must be made by the director of the teaching team to be approved by the university's governing council. Before the proposal can actually reach the council, it needs to be discussed with the head of Open UNED, the section of the university that runs MOOCs, to understand the implications of the course for the university's brand, social policy, and educational standards.

In the case of MOONLITE, the support of the university for using institutional resources to support students who are not fee paying, has been clear and reflects the university's mission to provide quality education to disadvantaged social groups. However, while there is no cost for the students there are obviously expenses that the university must face related to the preparation of educational resources for these courses, hosting them on our MOOC platform, and certification and accreditation costs.

In order for the university to be able to continue to offer similar services to other collectives it is necessary to have a clear idea of the cost-benefits of these initiatives and how such expenditure can be contextualized in terms of the institution's business model, the overall mission of the university, the maintenance and promotion of its brand, and consolidation of its changing educational model.

### 3. Scope

The National University of Distance Education, known in Spanish as Universidad Nacional de Educación a Distancia (UNED), is a distance learning and research university founded in 1972 and is the only university run by the central government of Spain. It has headquarters in Madrid, Spain, with campuses in all Spanish autonomous communities. The University awards undergraduate and postgraduate degrees, as well as non-degree qualifications such as diplomas and certificates, or continuing education units.

UNED was founded in 1972 following the idea of the UK's Open University to provide quality higher and continuing education opportunities to all through a distance education system. It awards the same qualifications as other Spanish universities and has the same entry requirements. This implies that it is not "Open". Even though the study is at distance, admissions are as strict as for "onsite" education and exams are supervised as in the other Spanish universities. However, some special features of UNED make it different from most other Spanish universities: it is nationwide in scope, applies the most advanced teaching technologies[citation needed] and has a wide social influence with radio and TV programming.

Key statistics (student numbers, learning hours, etc)

With more than 205,000 students, UNED has the largest student population in Spain and is one of the largest universities in Europe. The university has more than 1,400 academic teaching staff in 9 Faculties, 2 Technical Engineering Schools and the University Access Course (CAD) at UNED Headquarters. There are also more than 7,000 Professor-Tutors spread throughout the Associated Centers.

UNED offers the following degrees and diplomas:

- 27 bachelor's degrees adapted to the European Higher Education Area (EHEA)
- 76 official university master's degrees adapted to the EHEA.
- 19 doctoral programs adapted to the EHEA.
- University Access Courses (CAD) for those older than 25 and 45, respectively.
- Languages. Course offerings in foreign and co-official languages at the University Center for Distance Language Learning (CUID).
- Life-long-learning courses (more than 600).

- University extension courses (more than 900, including summer schools and other courses).
- UNED Senior, for people over the age of 55.

There is also great interest in the institution in responding to the demand for training groups with special needs.

UNED is present in all the Spanish Autonomous Communities in the form of 61 Associated Centers and more than 100 extensions and classrooms, where tutoring takes place and also the venues for the proctoring of in-person exams. It is also present in 13 countries in Europe (Germany, Belgium, France, United Kingdom, Switzerland, Italia), America (United States, Argentina, Peru, Mexico, Brazil, Venezuela) and Africa (Equatorial Guinea).

#### Mission and Vision of the entity

UNED's mission is to be present as a centre of academic excellence throughout the world as a leader in the implementation of cutting edge technologies applied to teaching and learning, with the largest offer of virtual courses in Spain.

It also has had a strong commitment to providing education for disadvantaged social groups (e.g., disabled students, ones in prisons) since its inception, nearly fifty years ago, as that forms part of its academic and social charter.

#### Key projects underway for the next few years

Difficult to answer at the moment since we are in a period of elections. The new Rector, who will be elected in September, will put together a team of Vice-Rectors, who will develop a strategic plan for the university during the following four years.

However, it would be fair to highlight the need to update our methodological approach and replace our VLE as two key projects that any new rector would need to undertake.

## 4. Purpose

Purpose of this report is to get a snapshot of the cost-benefit of using open educational resources and practices as part of our overall educational portfolio.

### *4.1. Target Groups*

UNED provides educational services to a wide range of student types ranging from national to international students, who seek online education that goes from formal degrees and masters through to more informal studies in different types of lifelong-learning.

## 5. Overall Goals

### 5.1. Financial Goals

The potential financial goals that come from ISO 26000 are:

1. 'Conversions' into tuition fees
2. Infrastructure costs (reducing and justifying)
3. Running costs (reducing and justifying)

The potential financial goals that come from GRI are:

1. 2.01.1: Direct economic value generated and distributed (income + costs)
2. 2.03.2: Significant indirect economic impacts (students increasing income and skills via MOOCs)

### 5.2. Social Goals

The potential social goals that come from ISO 26000 are:

1. Issue 1: Promoting social responsibility for teaching
2. Issue 5: Discrimination and vulnerable groups
3. Issue 7: Economic, social and cultural rights
4. Issue 4: Promoting social responsibility in the value chain

The potential social goals that come from GRI are:

5. 4.01: Employment
6. 4.04: Training and education



## 6. Promoting Social Responsibility

Any organization, whether it be corporate or administrative depends on the society and environment in which it operates. This relation can be seen to be important for it to operate effectively, ethically and oriented to the greater good. In general terms, the concept of social responsibility (henceforth, SR) ([https://en.wikipedia.org/wiki/Social\\_responsibility](https://en.wikipedia.org/wiki/Social_responsibility)) can be seen to underlie this relation and the need to balance economic development and social and environmental welfare (Palmer, 1995). It has been defined in the context of the UNED to refer to the offer of educational services and the transfer of knowledge following principles of ethics, good governance, respect for the environment, social commitment and promotion of civic values; take responsibility, therefore, for the consequences and the impacts that derive from their actions.

SR is arguably something that can orientate action at different levels, individual, institutional, and supra-institutional levels. Furthermore, SR can be included in an organization's operations implicitly, influencing a series of internal processes without direct reference, or explicitly, as a high level strategy, something that can be referred to as Corporate Social Responsibility (henceforth, CSR). This can be defined as the inclusion of SR within the business process to guide the decision making process explicitly (Wood, 1991; Sheehy, 2015).

As noted on the university's web<sup>1</sup>, since its foundation in 1972, UNED has been a university oriented toward social demands and is closely linked to local contexts in which its regional study centres operate (where face-to-face universities do not reach). Such contexts include rural areas, students living abroad, prisons, students with disabilities, etc. In the context of higher education SR can be defined here as the provision of educational services and transfer of knowledge following principles of ethics, good governance, respect for the environment, social commitment and promotion of civic values; take responsibility, therefore, for the consequences and the impacts that derive from their actions. For a university like UNED, SR is based upon a commitment of accountability to society for its activities in terms of human rights, environmental issues, good governance and social commitment. Since 2008, a report has been prepared on the state of SR in the institution, the results of which can be found on the university's web<sup>2</sup>.

---

<sup>1</sup> [https://portal.uned.es/portal/page?\\_pageid=93,25080930&\\_dad=portal&\\_schema=PORTAL](https://portal.uned.es/portal/page?_pageid=93,25080930&_dad=portal&_schema=PORTAL)

<sup>2</sup> [http://portal.uned.es/portal/page?\\_pageid=93,40322643&\\_dad=portal&\\_schema=PORTAL](http://portal.uned.es/portal/page?_pageid=93,40322643&_dad=portal&_schema=PORTAL)

## Approach

Given the importance given to SR at UNED a commission was formed in 2009, and explicitly regulated subsequently by Articles 195 and 196 of the university's statutes (published in 2011):

### Article 195. Social Responsibility Commission

1. In order to contribute to a more humane and sustainable development of the University, the Governing Council will form a Social Responsibility Commission, which will be chaired by the Rector and will be composed of professors, experts, students, administration and service personnel, members of organs of government and management, representatives of social organizations and other groups of interest.
2. The Social Responsibility Commission may set up a permanent commission, composed of a number of members that guarantees the representation of all sectors.

### Article 196. Powers.

The Social Responsibility Commission will have the following attributions:

1. Know and guide the policy, objectives and guidelines of social responsibility within the university.
2. Put in place procedures and mechanisms that allow reaching said objectives and account for their progress.
3. Prepare an annual report on social responsibility.
4. Any other function specifically assigned by the internal norms of the UNED or by the University Senate and the Government Council.

The commission has been operating ever since, to promote the incorporation of SR in all areas of university activity. It is presided by the university's Rector<sup>3</sup>.

Even though the Rector changes every four/eight years, following elections, the commitment to SR within the institution, in a way that affects all its community (lecturers, administrators, tutors, and students), is unwavering, forming a part of management plan that each Rector produces in collaboration with his/her team. For example, as noted in MSR (2012, p.21), objectives of SR in university management objectives include:

---

<sup>3</sup> [https://portal.uned.es/portal/page?\\_pageid=93,40318650&\\_dad=portal&\\_schema=PORTAL](https://portal.uned.es/portal/page?_pageid=93,40318650&_dad=portal&_schema=PORTAL)

- Develop a plan of the efficient use of resources
- Improve the support given to collectives with special needs
- Potentiate the presence and coordination of our educational and cultural offer both from the main university as well as the regional study centres
- Potentiate policies that focus on equality of gender

#### Activities

A key activity that can be highlighted here, as part of the approach adopted at UNED to promote social responsibility, is the efficient use of resources. Since the Bologna degrees started at UNED in 2006, the use of our Virtual Learning Environment (VLE) aLF became mandatory for students. This enabled the university to take an important step toward the efficient use of resources by distributing a significant part of its teaching resources in digital formats via the VLE rather than in different paper-based formats. Before then, a student could argue that it was not possible for him/her to access the VLE and to request hard copies of any relevant materials for their studies. Currently, relevant content is mostly provided in the online course, and is supplemented where appropriate, with books, some of which are available electronically and others still in paper format.

The university has also taken steps in the direction of producing and distributing electronic books (e-Books). The publishing service at UNED can help academic staff with the preparation of e-Books, once the original text has been written. The resulting e-Book can be distributed via the university library, using a system like e-BUNED (<https://uned.xebook.es/>), that lets students registered at the university borrow books for a limited period, in a similar way as they would with paper books. Alternatively, e-Books can be distributed via e-uned (<http://e-uned.es/index.php>), either at no cost or for purchase online.

The university's examination system, *Valija Virtual*, enables exams to be produced and distributed to the regional study centres, where they take place, using digital formats. Although the exams are then printed for the students as they arrive for the exams, only the exact number are printed on a just-in-time basis, rather than using general estimates of attendance, leading to excessive photocopying. Furthermore, the distribution, both from the university to the study centres, as well as the return of the completed exams for correction by the teaching teams, is undertaken electronically, so no transportation is required to move boxes of paper-based exams from one place to another.

Similarly, the distribution of the university's scientific production in its academic journals has moved away from paper-based model toward an electronic format. UNED currently has 36 journals that are available in digital format (as can be seen on the journal web page: <http://revistas.uned.es>). The university hosts the free software Open

Journal System (OJS) that provides more than just a distribution channel but also a tool for article submission, revision, and edition. All of which can be undertaken without the need to use any paper or print-based technologies in the process. The digital service for these journals is provided free of charge for the journals by the university as part of the library services.

Finally, energy costs at the university are kept to a minimum by closing the buildings in the evenings, weekends, and during holiday periods, so that light and heating can be switched off. The science faculty still has access for those academic staff that are undertaking experiments that require attention outside of regular university hours.

## Indicators

The indicators of SR that are most evident at UNED are the following five:

1. Free Education. Quantity of Free Education Provided through to MOOCs (ISO 26000: 6.3.9 / GRI G4)

In UNED's MOOC platform there are 200,000 registered students who have signed up for a total of 208,000 courses. During the academic year 2016-17, UNED offered a total of 121 MOOCs.

The videos from these MOOC are stored on a YouTube channel and have received a total of 1,022,585 views in 2016-17.

As well as MOOCs, the university has a range of other open educational initiatives that help promote SR. In the university's Open Course Ware (OCW) platform we have a total of 55 courses that have received a total of nearly 21,267,140 visits since their start in 2009, 2,030,588 of which took place in 2016/17.

In the university's iTunesU there are a total of 14 courses and 33 collections of multimedia, which have been accessed by a total of 18,774 students.

Finally, there is CadenaCampus, the university's digital repository of videos recorded using the conferencing tool AVIP. The majority of these recordings are copyrighted by the university and are used as part of its formal educational programmes. However, there are a total of 8,136 recordings that have Creative Commons licenses, and hence can be used by anyone and as such support SR.

2. Licensing of Content. Open vs Closed vs licenses for content in MOOCs (ISO 26000: 6.6.7 / GRI G4: additional)

The situation of content licensing and legal ownership in Spain is complicated because by law any content produced by someone belongs to them unless explicitly attributed in a different manner. Furthermore, all content generated by UNED staff belongs to the university. Hence, when the Open UNED programme started to produce MOOCs and related content, the decision was explicitly taken that all MOOC content, unless explicitly indicated by a teaching team, would be open licenced, using Creative Commons. At the moment, to the best of the author's knowledge, almost all videos do not include more restricted licensing information on the corresponding YouTube channel.

3. Data Protection. The number of students affected by data incidents including leaks, thefts, misuses or losses of customer data (ISO 26000: 6.7.7 / GRI G4: 4.18.1)

By Spanish law and subsequent GDPR, there are rules and processes that protect all student data at UNED. The MOOCs in Open UNED therefore, are bound by the same rules as any other courses at the institution. Although there are constant attempts find vulnerabilities in UNED computer systems, security is a top priority at the university, and up until now there have no leaks, thefts, misuses or losses of student data.

4. Support, Complaints and Resolution. The level of service for students to have their questions or complaints satisfactorily resolved. Average time to resolution for different classes of queries (ISO 26000: 6.7.6 / GRI G4)

There are seven different email directions used to provide support to the students on the university's MOOCs. There has been a total of 2,061 requests from students for support related to problems and difficulties with the courses and the MOOC platform. Most of these requests were answered the same day they were registered. Thanks to this service, and the way in which the information gained from these requests could be used to improve usability of the courses and the addition of different supporting information, the number of incidents registered in 2016-17 dropped by 75% with respect to the previous year. Furthermore, there have also been a total of 3,840 requests for information/help from the university's teaching staff, that have also been resolved with the same agility.

5. Access to learning. The possibility of following MOOCs from low connectivity network conditions (ISO 26000: 6.7.8 / GRI G4)

Open UNED initially used its own MOOC platform, OpenMOOC, but currently uses an instance of the Open edX platform, and as such, has the same connectivity issues. I.e., all textual content can be downloaded to user devices for offline use and all activities, together with forum use, required an active

network connection. The videos present in the courses, since they are not physically stored on our servers, but in a YouTube channel, are limited by its download restriction, which essentially prevents videos from being downloaded. There are ways around this restriction, making use of technical “features” of YouTube, but these can’t be communicated to the students in the way of recommendations of how to get video downloads, both for legal reasons and also that at any given moment, Google could decide to block these downloads explicitly. For some MOOCs, a very small percentage, low foot-print copies of the course videos are stored away from the YouTube channel to facilitate downloading.

## 7. Discrimination and Vulnerable Groups

### Approach

Since its very beginnings UNED has had a clear commitment to support vulnerable social groups and prevent all types of discrimination. Specifically, this has focussed on groups that are more prone to formative and professional exclusion such as women, the elderly, people with disabilities, inmates, immigrants and residents abroad.

As examples of this commitment, two specific groups can be considered, namely people with discapacities and those in prisons.

For the former, students with disabilities, the university has a Center for Attention to University Students with Disabilities (UNIDIS), that is a service of the Vice-rectorate of Students and Professional Development, whose main objective is that students with disabilities who wish to study at this University, can enjoy the same opportunities as the rest of students of the UNED. As noted on the university's web<sup>4</sup> it provides a series of advisory and support actions for the university community that help to eliminate barriers to access, participation and learning for university students with disabilities.

For the latter, as noted on the university's web<sup>5</sup>, the University Studies Program in prisons is the result of the development of agreements signed between the Ministry of Education, Culture and Sport, the Ministry of Defense, the General Secretariat of Penitentiary Institutions of the Ministry of the Interior and UNED.

Its objective is to increase the educational and cultural level of the prison population in the national territory, making it possible, through distance methodology, for them to access university studies.

Furthermore, the university also has an Equality Office where, according the its web<sup>6</sup>, it focuses on the establishment and application of policies of gender equality in each and every area in which the UNED operates, from the selection to the promoción of personnel, occupational health, the organization of the time of work, conciliation, etc. The University applies the principle of equality of opportunities between women and men, paying special attention to indirect discrimination, understood as "the situation in which an apparently neutral disposition, criterion or practice, puts a person of a sex at a particular disadvantage with respect to persons of the other sex ".

---

<sup>4</sup> [http://portal.uned.es/portal/page?\\_pageid=93,668282&\\_dad=portal&\\_schema=PORTAL](http://portal.uned.es/portal/page?_pageid=93,668282&_dad=portal&_schema=PORTAL)

<sup>5</sup> [http://portal.uned.es/portal/page?\\_pageid=93,556385&\\_dad=portal&\\_schema=PORTAL](http://portal.uned.es/portal/page?_pageid=93,556385&_dad=portal&_schema=PORTAL)

<sup>6</sup> [http://portal.uned.es/portal/page?\\_pageid=93,47462898&\\_dad=portal&\\_schema=PORTAL](http://portal.uned.es/portal/page?_pageid=93,47462898&_dad=portal&_schema=PORTAL)



In this context, the Equality Office will take charge and strengthen the management and promotion of equality policies at work between women and men and for all those with disabilities or at risk of social exclusion.

#### Activities

There are several activities undertaken at the university to limit discrimination and provide support for vulnerable social groups. Two central ones are the support provided by UNIDIS (the centre of attention for university students with disabilities) and by UNED's prison service.

The former both develops awareness in the university community, and provides relevant training, to help remove barriers that are present for students with disabilities and facilitate equal educational opportunities. Specifically, staff at this centre coordinate the development and provision of educational services to ensure that they are accessible and appropriate for these students. For example, resources distributed are in electronic formats are sometimes unsuitable for certain students, with for example, visual impairments, so UNIDIS will liaise with the relevant teaching team to look for alternatives.

Furthermore, as part of the support that UNED gives to these students they can request special versions of exams adapted to their needs, such as, for example, enlarged text or figures, exams in electronic format for text readers, and even exams in braille.

The goal of the latter is to support prisoners in their university studies. Given the fact that inmates don't have access to Internet it is impossible for them to enter the VLE and obtain relevant digital resources therein or interact with other students in the forums. In these cases, the teaching teams are contacted to provide copies of such resources on CD or DVD. UNED offers a range of services and materials to the students in prisons, including an orientation system (called the Reception Plan), with information and registration, that helps students understand what educational offer is appropriate for them and their long-term objectives. Weekly tutoring in several priority prisons of subjects of the Direct Access Course for people over 25 years is also provided. Even though the prisoners themselves cannot access the VLE, the training officers at the prisons can enter, so support is given to them via UNED Advisors in its use. Finally, some prisons have a more open regime for certain categories of prisoners, so support is provided to them and the students there by UNED's regional study centres.

#### Indicators

There are six indicators of the priority given to preventing discrimination and supporting vulnerable groups during their time as students at UNED, which are:



#### 1. Participation of Students from Vulnerable Groups (ISO 26000: 6.3.7 / GRI G4)

During the academic year 2017/18 there were a total of 8,282 students (originally 4,597 in 2009, when the programme started) with different kinds of disabilities registered in UNIDIS at UNED (the university's service for students with disabilities). These students have either physical problems (49%), mental/cognitive problems (25%), hearing problems (6%), visual problems (9%), or other types of problems (11%). Most of these students (79%) are studying undergraduate degrees.

The overall number of registered students on courses at UNED is 170,282, so it can be seen that disabled students make up almost 5% of the total student number.

During the academic course 2017/18 there were 1,105 students in 23 different prisons registered as students at UNED. Of these students, 429 are studying university entry courses, 666 are on undergraduate degrees, and 10 undertaking professional training courses. A total of 32 face-to-face tutorials are provided in some prisons, where large student numbers justify such presence. The students that are in prison have special exams sessions provided for them that actually take place in prisons. There are around 40 prisons with such sessions, involving a total of 70 teachers, who go to the institutions to invigilate the exams. There have also been a series of 15 summer schools taught in prisons.

#### 2. Free Education (ISO 26000: 6.3.9 / GRI G4)

The data presented for this indicator in the previous section is directly relevant for preventing discrimination and supporting vulnerable groups during their time as students at UNED.

#### 3. Licensing of Content (ISO 26000: 6.6.7 / GRI G4: additional)

The data presented for this indicator in the previous section is directly relevant for preventing discrimination and supporting vulnerable groups during their time as students at UNED.

#### 4. Data Protection (ISO 26000: 6.7.7 / GRI G4: 4.18.1)

The data presented for this indicator in the previous section is directly relevant for preventing discrimination and supporting vulnerable groups during their time as students at UNED.

#### 5. Support, Complaints and Resolution (ISO 26000: 6.7.6 / GRI G4)

The data presented for this indicator in the previous section is directly relevant for preventing discrimination and supporting vulnerable groups during their time as students at UNED.

6. Access to learning. Possibility to follow MOOCs despite low connectivity (ISO 26000: 6.7.8 / GRI G4).

The data presented for this indicator in the previous section is directly relevant for preventing discrimination and supporting vulnerable groups during their time as students at UNED.

## 8. Conclusions and Future Directions

UNED is a public university that has a clear commitment towards facilitating access to higher education of the widest possible social demographic. It is in this sense that the two goals of the application of the Cost Benefit Analysis tool were selected for this report. Firstly, social responsibility at UNED, as the provision of educational services in an ethical fashion, is clearly a priority at the university, and reflects its social commitment and the promotion of civic values. Secondly, supporting vulnerable groups and preventing discrimination underlies a lot of the activities undertaken with disadvantaged groups who study with us, including people with disabilities and those in prisons.

The approach to the analysis undertaken and the data used in it have come from previous reports available at the university (as noted in the next section) together with data currently logged. For a finer grained analysis to be undertaken in future iterations of this process it would be necessary to gather specific data correlating vulnerable groups with the results they obtain, not only in formal accredited study programmes but also in MOOCs, downloads of OCW materials, use of our iTunes U channel, etc. Specifically, given the university's work with displaced people, like refugees in the MOONLITE<sup>7</sup> project, it would be of interest to gather data specifically on this collective and the studies undertaken by them.

It should be noted that management at UNED already have a data-oriented perspective in managing the educational process but this should be potentiated across all areas of institutional activity and where possible, be automated and integrated, so that dashboards are more freely available help researchers analyse recorded data.

---

<sup>7</sup> ERASMUS+ project number: 2016-1-ES01-KA203-025731.

## 9. Sources consulted in the preparation of this report

The data used in this report comes from previous broader analyses undertaken at the university as part of the activities undertaken by the research chair in Social Responsibility<sup>8</sup>, and from internal reports developed by OpenUNED, the Centre for Attention to University Students with Disabilities (UNIDIS)<sup>9,10</sup> and Equality Office<sup>11</sup>.

---

<sup>8</sup> [http://portal.uned.es/portal/page?\\_pageid=93,40322643&\\_dad=portal&\\_schema=PORTAL](http://portal.uned.es/portal/page?_pageid=93,40322643&_dad=portal&_schema=PORTAL)

<sup>9</sup> [http://portal.uned.es/portal/page?\\_pageid=93,668282&\\_dad=portal&\\_schema=PORTAL](http://portal.uned.es/portal/page?_pageid=93,668282&_dad=portal&_schema=PORTAL)

<sup>10</sup> [http://portal.uned.es/portal/page?\\_pageid=93,556385&\\_dad=portal&\\_schema=PORTAL](http://portal.uned.es/portal/page?_pageid=93,556385&_dad=portal&_schema=PORTAL)

<sup>11</sup> [http://portal.uned.es/portal/page?\\_pageid=93,47462898&\\_dad=portal&\\_schema=PORTAL](http://portal.uned.es/portal/page?_pageid=93,47462898&_dad=portal&_schema=PORTAL)

## 10. References

Palmer, K. (1995). "Tightening Environmental Standards: The Benefit-Cost or the No-Cost Paradigm?". *The Journal of Economic Perspectives*. 9 (4): 119–132.

Sheehy, B. (2015). "Defining CSR: Problems and Solutions". *Journal of Business Ethics*. 131 (3): 625–648.

Wood, D.J. (1991). "Corporate Social Performance Revisited". *The Academy of Management Review*. 16 (4): 691–718.





This report presents a cost-benefit analysis of the MOOC programme at UNED, using triple-bottom line reporting to understand the environmental, social and financial impacts of the programme. The report pilots a methodology for such analysis being developed and tested within the framework of the MOONLITE project.

[www.moonliteproject.eu](http://www.moonliteproject.eu)

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

