Blended MOOCs to return on investment

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1. Introduction and objectives

Since 2014, Cremit (Research Centre on Media Education, Innovation and Technology), in collaboration with Ilab (Innovation for Digital Didactics) of the Università Cattolica del Sacro Cuore, has been producing and delivering MOOCs as part of the University's Third Mission.

The creation of a MOOC (Massive Open Online Course) requires significant organisational effort and has an important economic impact. Costs include both the use of advanced digital technologies and the employment of human resources in the various stages of its life cycle. All this has led Cremit to question the sustainability of the production process and the design of a return on investment (ROI) programme.

This study aims to: 1. provide a snapshot of the state of the art of MOOCs delivered to date and their performance through the analysis of monitoring data, in order to understand when a MOOC can be said to have completed its life cycle; 2. understand how design choices impact the cost of a MOOC by focusing on elements that characterise ROI; 3. identify possible forms of ROI through blended-instruction strategies.

2. Research framework and state of the art of Cremit MOOCs

In order to understand the costs and how to achieve a return on investment, it is necessary to explain both the considerations made regarding the life cycle of MOOCs and the pedagogical model used. With regard to the life cycle, the analysis of the three project stages outlined by Sanchez-Gordon & Luján-Mora [1] – Development, Management, Improvement – has made it possible to accurately identify all cost items attributable to two macro-areas: human resources and instrumental resources.

In terms of pedagogical model, Cremit/Università Cattolica MOOCs are rooted in three key principles: the social dimension of learning [2], the knowledge-building approach [3, 4], and relational pedagogy [5]. These pillars have been adapted to the post-covid scenario: a shift toward micro-learning (brevity and speed), ubiquitous learning [6], learner-centered approaches and the development of dynamic literacies [7]. Comparing pre-Covid and post-Covid MOOCs, we observe changes in time structures, an increase in self-paced learning, reduced feedback mechanisms, and fewer dedicated communication spaces. MOOCs have been systematically monitored through evaluation plans: participant feedback through final questionnaires, tracking data, forum message analysis, focus groups, and interviews conducted in various research projects (Table 1).

Table 1. Overview of the tracking data

Time	Learning Platform	No. Moocs	No. Participants	% Certificates	% Final Q
Pre-Covid (2014-20)	Open Education	22	20.987	62, 2	45,9%
Post-Covid (2021-25)*	EduOpen	17	7.187	37	53,1

*Last updated date: August 14, 2025.

3. Proposal for ROI

To enhance and capitalize on the MOOC experience, in a third space pedagogy strategy [8], making sense of its increasingly short but costly course life cycle, we have outlined a retrospective of the results obtained from 2014 to date, focusing the analysis on the economic and pedagogical areas, to understand the overall value generated from a quantitative and qualitative point of view.

Economic ROI. The aspects investigated were: design choices and average costs of a MOOC, types of public/private funding and strategic partnerships, with reference to business models documented in the literature [9, 10].

Pedagogical ROI. This includes a broader assessment, which takes into account the extra-financial return and analyses the types of use. Alongside the conventional use, MOOCs have been used in five different blended education scenarios [11] shown in Table 2.

Tabella 2. Blended MOOCs

MOOC Type	Case	Teaching Scenario
Pre MOOC	Master (Level II) University courses	Before the training course
In between MOOC	University courses	Within the course, as an in-depth study, starting and ending in the classroom
Flipped MOOC	Third Mission Projects	In preparation for seminars or workshops
Post MOOC	Third Mission Projects	After the training course
Parallel MOOC	European Projects	Two parallel courses, taken by teachers and students, on the same topics

4. Results and perspectives

As regards economic ROI, bearing in mind the costs and monitoring data that enable the break-even point for activating MOOCs to be identified, the elements that represent value are: reputation, third mission, educational marketing, and communication output.

With regard to pedagogical ROI, the factors highlighted by the experiment are: retention and loyalty, democratisation of knowledge, new forms of knowledge transfer thanks to blended learning, and communities of practice. These elements are important for the creation of a MOOC analysis system to be proposed at institutional level to enable the University to demonstrate the value of this type of training and to support the promotion of a MOOC culture among both administrators and teachers.

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