



# Chapter 06. A business model approach for OER in Open Universities

OUNL  
Open Universiteit (Netherlands)

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## ABSTRACT

This chapter discusses the challenges an Open University faces when offering its learning materials as Open Educational Resources (OER). We will describe these challenges and the way the Open Universiteit in the Netherlands (OUNL) may tackle them. Open universities traditionally develop their courses to be used for independent learning, so all didactical elements are part of the course materials. By offering such courses as OER, a likely threat may be that learners will only use these OER and will not opt anymore for paid enrolment, thereby creating a severe loss in revenues for the institutions.

We will focus on three possible scenarios for the OUNL in offering OER and the effects that each of these scenarios might have on enrolment. Results of two surveys on this subject will be presented.

## COLEARNING OBJECTIVES

The objective of this chapter is to give more insight into the specific challenges an Open University is facing when offering OER and to sketch ways to realize this in a potentially sustainable way.

## REUSABILITY

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## KEYWORDS

Open Educational Resources (OER), Openness, Open University, Open Education, sustainable business models for OER

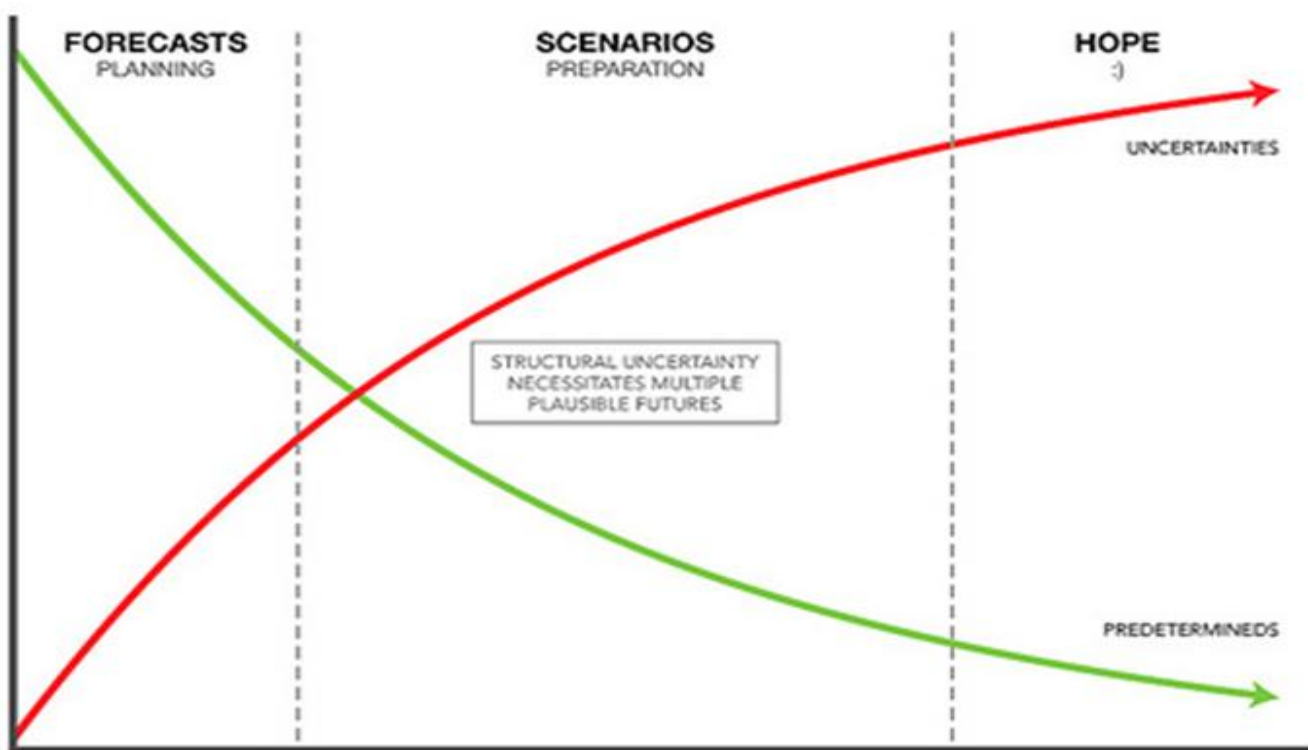


## 1. OPENING WORDS

Publishing OER has consequences for the business model of a university. One of the ways to think about these consequences is by sketching several scenarios for a future situation and investigate the pros and cons of each scenario.

The image shows where scenarios fit compared to forecasting. Creating scenarios is one of the ways to shape a forecast. Creating scenarios is about making assumptions and think about how this will work out. Its aim is to reduce uncertainties.

Can you think about scenarios for your institution in offering OER?



OER 1: Scenario thinking

Author: Dustin Larimer

Source: <http://www.flickr.com/photos/dustinlarimer/5355652679/>

Description: This figure is a screenshot of a widget-based PLE developed by the ROLE project.

Objective: Think about scenarios.

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For some time the Open Universiteit in the Netherlands (OUNL) has been positioning itself as the university for lifelong learners. This includes amongst others a policy of developing and using Open



Educational Resources (OER). One of the aims of this OER policy is to give lifelong learners free and open access to learning materials, publications and tools of OUNL.

This free and open access to the resources of OUNL has (direct and indirect) consequences for the business model of OUNL. With 'business model' we mean the (conceptual) model showing what a company or organization does for whom at what price, and how the business is equipped for that. In this chapter we will discuss implications for the business model of OUNL which also may apply to other open universities embracing an OER approach. We will do this by considering three scenarios.

The most radical scenario is a model in which all learning materials will be made available as OER. In this '100% OER' scenario the business model is entirely based on additional learning services to be paid for. Another scenario is to continue the current model, in which OER plays a minor role, in the form of short courses in a marketing driven approach. In an intermediate ('10% OER') scenario OER plays a more significant but still modest role, the business model being based on a substantial share of learning materials still to be paid for plus additional paid learning services.

We will present the results of two surveys of preferences of (potential) lifelong learners for these three scenarios. The first survey was conducted among a representative sample of the Dutch population. The second survey took place under OUNL students. The results are supportive of the 100% OER scenario and thus relevant and encouraging for the open universities who are generally in a deep search for a sustainable OER approach.

## 2. INTRODUCTION

Openness has always been at the heart of open universities. These universities have been set up to relax traditional barriers to entry, study and success in higher education such as location, time, pace and required pre-qualification so that more people have access to higher education. The OER wave has brought an additional dimension to this openness: free access to educational resources and also free use and re-use. But what does this mean for the business model of open universities? With 'business model' we mean the (conceptual) model showing what an organization does for whom at what price, and how its business is equipped for that. Will OER for open universities lead to less students and less revenue? Will the principal funding stakeholder (i.e. the government) be willing to compensate for loss of revenue? Is it possible to generate new revenue streams by for instance certification of people engaged in a more informal mode of open learning?

Until now, the number of studies into the economics of OER practices of (higher) educational institutions is rather small. There is an emerging business model for open access publishers, and for open repositories. There is evidence on open textbooks, which have proved to be competitive alternatives to traditional textbooks for their cost and accessibility benefits (Hilton and Wiley, 2010). OER are also often cited for increasing academic quality while at the same time making high quality educational resources freely available to the community (Lane, 2008).

The OpenCourseWare project has not altered drastically the core businesses of Massachusetts Institute of Technology (MIT). In fact, the OCW initiative has not only raised the already very elevated standing of



MIT in the world, it has also been economically beneficial to the institute. OCW is an example of opening education that has enhanced the competitive edge of MIT (Carson, 2009).

There is also evidence through an experiment at Brigham Young University where for a selected number of programmes the learning materials were made openly available. Often it is suggested that the enrolment of fee-paying students will drop when the learning materials are freely available. Johansen and Wiley (2010) showed, however, that there was no significant impact on paid enrolment. Actually there was a slight, but statistically insignificant, increase in enrolment in the programmes. An evaluative study of the Open Learn project of the Open University (UK) showed that this OER project was a strong enabling device that let the OU UK move towards a variety of benefits such as stronger public and academic profiles, improved opportunities for public engagement and more effective engagement with subject communities (McAndrew et al., 2009).

The challenges posed by OER to an open university such as OUNL in terms of the business model are going beyond the challenges for the regular universities. For an open university, giving free access to its educational resources could imply a more disruptive innovation than it is for regular universities. Traditionally educational resources have been core asset of the business models of open universities. They are meant for independent learners and often are based on interactive pedagogical models aimed at self-initiated and self-directed learning. Giving free access to these learning materials could mean giving away the crown jewels.

### **3. OER AND THE OPEN UNIVERSITEIT IN THE NETHERLANDS**

Since its start in 1984, OUNL has positioned itself as a university for lifelong learners. "Open" in its name refers to open admission (no thresholds regarding prior education) and freedom in time, pace and place (learning whenever and wherever the student is able to), as well as openness towards programming and a wide variety in its student population. This six-fold classical openness (Mulder, 2010) indeed sets the right conditions for lifelong learners who generally have to fit their study plans in a busy schedule of working, being part of a family and leisure time.

The educational model of OUNL is characterized by:

- supported open learning
- carried by high-quality learning materials
- developed for independent learning
- integrated with didactics and tutoring elements.

Meanwhile open universities are considering ways of fruitfully combining the classical openness with the new digital openness (Mulder, 2011), which stands for free online availability of:

- software (Open Source)



- scientific output (Open Access)
- creative output (Open Content)
- learning materials (Open Educational Resources / OER).

Of these OER is the most prominent in touching the business model kernel of open universities, offering powerful prospects hand-in-hand with entering a possibly risky adventure. As the first Dutch university OUNL initiated such an adventure in 2006 by experimenting with a base of 25 high-quality short courses for independent learners in OER through the so-called OpenER project (Schuwer and Mulder, 2008). After this successful experiment a cautious but steady step-by-step institutional OER strategy was designed. The basic idea is to position OUNL as a frontrunner on OER in the Netherlands by offering part of OUNL's learning materials for free. Aim is to generate increasing enrolment and higher revenue by better addressing the needs of the existing target groups and attracting new target groups, especially among lifelong learners. The OER concept was complemented with the concept of Open Learning Services (OLS), which are free to use or to be paid for (Mulder, 2011), and include a variety of online / virtual (but also onsite / physical) facilities like:

- tutoring and advice
- meetings, seminars and lectures
- communities, social interaction and teamwork
- testing and examination
- consulting knowledge sources
- internet navigation.

To find out what the probable effects of a business model based on OER on both the revenue streams and the internal processes would be, a pilot project has been started in 2010 called OpenU (<http://portal.ou.nl/en/home>. For a short introduction, see <http://t.co/P5vfaRt>). In this project real-life large-scale experiments are conducted within two knowledge domains. Part of their learning materials are being offered as OER and in addition OLS are provided, partly free but for the main part to be paid for by subscription.

Parallel to OpenU a research project was set up in order to study different aspects regarding the business model of OUNL with OER included. Part of this project was a survey of the (probable) behavior of people in taking courses at OUNL in a situation where parts of or all learning materials of OUNL will be available as OER. The survey was commissioned by OUNL to CentERdata, a research institute of Tilburg University



In this chapter we will discuss this survey. In the following section we will describe the research methodology. Then we will outline three OER scenarios which have been the object of the survey. In section 5 the main findings will be presented. The chapter ends with a major conclusion.

#### 4. RESEARCH METHODOLOGY

There is no real evidence yet with regard to actual choices (revealed preferences) people make when an open university has switched to OER. In such a situation one could use the so-called stated preference method, a probabilistic research technique by which decisions of individuals in particular contexts can be predicted (Louvière et al., 2000). People are asked to state their preferences and values rather than inferring their preferences and values from actual choices. In this survey this stated preference technique has been used and individuals have been asked to make trade-offs amongst different alternative educational offerings, all based on OER. From these trade-offs their willingness to register for and to pay for the open education of OUNL can be estimated.

Each individual respondent was offered six different alternative sets. Each alternative set consisted of two hypothetical cases of OER-based educational offerings differing in only one variable such as the price or mode of guidance. Each time the respondent was asked to state his/her preference. Furthermore, the respondent was asked whether s/he would actually take the course of his/her preference or not.

The survey was conducted for two populations: a representative sample of the Dutch population (800 with a response of 464 (58%)), and a sample of current OUNL students (3594 with a response of 407 (11%)). The samples were divided into three age groups:

- < 26 years ('regular students', young)
- 26 - 50 years ('lifelong learners', middle-age)
- > 50 years ('fun students', old).

The response was equally divided among the three groups.

The goal of the two surveys was to find out whether OER would affect the preferences of individuals to enroll in OUNL courses, and if so to what extent. Furthermore, we would like to know which variables influence these preferences.

The main question was the following:

What will be the effects of combinations of

- OER,
- additional services,
- level of services, and



- variations in pricing

on the preferences of (potential) students in terms of (paid) enrolment?

### 5. THREE SCENARIOS

The alternative educational offerings which were presented to (potential) students, have been based on three different scenarios. They differ with regard to the percentage in which OER is part of the offering. This percentage ranges from exemplary via 10% to 100%.

Scenario 1: current scenario (exemplary OER)

The current scenario is characterized by offering some minicourses as OER, each about 25 hours of study. Some of these minicourses are derivatives from a regular 100 or 200 hours course and some are especially designed to be offered as OER. This situation is schematically presented in figure 1. The OER offering is "all-inclusive", meaning that content as well as exercises and didactics are part of the learning materials. We will refer to it as the All-Inclusive Course Model (Mulder, 2011).

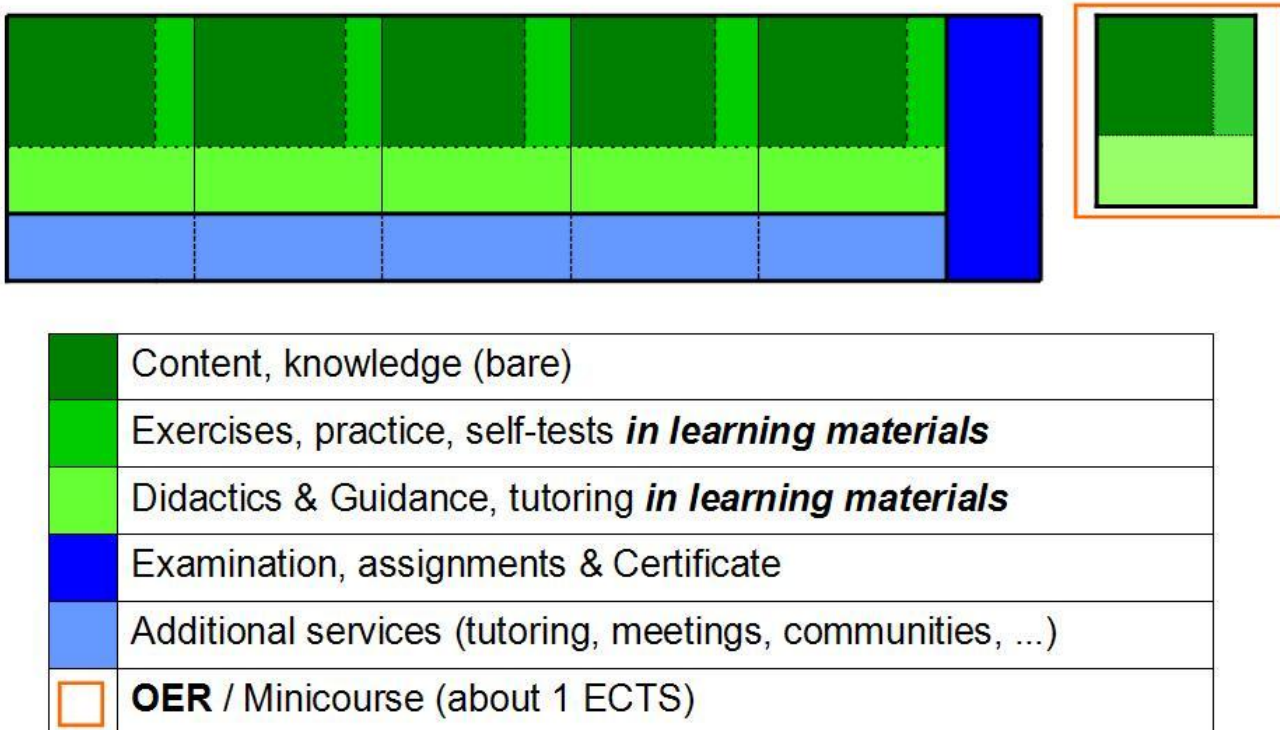


Figure 1. Course is represented as a set of units

In figure 1 a course is represented as a set of units, each consisting of content, exercises and tests, and didactics and guidance, all in green and all incorporated in the learning materials. Besides the course goes with services as well (in blue). Except for the OER minicourse all course components, learning materials and services, have to be paid for.



### Scenario 2: 10% scenario

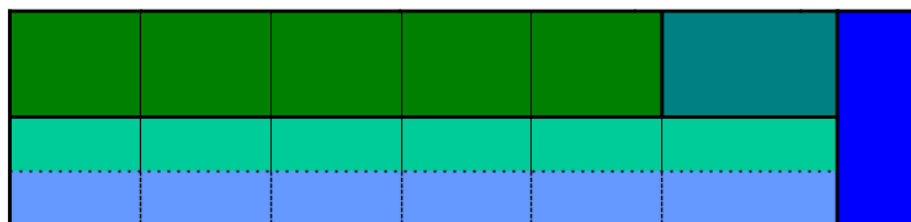
In the second scenario an average of 10% of each course is offered as OER. Compared to the first scenario all OER is derived from regular courses in order to minimize the amount of re-work to be done. The OER part is still following the All-Inclusive Course Model. This situation is presented in figure 2, with the same legend as used in figure 1. In the OpenU pilot project OUNL is experimenting with this scenario.



Figure 2. Representation of the All-Inclusive Course Model of scenario 2

### Scenario 3: 100% scenario

In the third scenario all learning materials will be offered as OER. Note, however, the difference in figure 3 as compared to figures 1 and 2: the exercises and tests as well as the didactics and guidance have been separated from the (bare) content, thereby allocating only the latter component to the OER learning materials. In this case we will therefore refer to the Split-Component Course Model (Mulder, 2011). This actually is more equivalent to the model of the regular universities in the sense that the latter also do offer exercises and tests as well as didactics and guidance separate from their course materials, mostly face-to-face in lectures, classes and working group sessions. In the Split-Component Course Model, however, these components will be provided as Open Learning Services, supported by dedicated self-learning materials (not for free) that should be combined with the content from the OER learning materials. In both cases students have to pay for the services that create or support their learning process through the (bare) content.



	<b>OER / Content, knowledge (bare)</b>
	<b>OLS / Exercises, practice, self-tests <i>in separate component</i></b>
	<b>OLS / Didactics &amp; Guidance, tutoring <i>in separate component</i></b>
	<b>OLS / Examination, assignments &amp; Certificate</b>
	<b>OLS / Additional services (tutoring, meetings, communities, ...)</b>





Figure 3. Representation of the Split-Component Course Model of scenario 3

In the surveys the three scenarios outlined above have been represented by so-called 'vignettes'. Each vignette delineates a possible offering. Offerings are constructed on the basis of a set of relevant variables and related values. Table 1 gives an overview of the variables and values in question. The values which represent - what we call - the reference offering are underlined. This reference offering is (except for its 100% OER approach) closest to the current OUNL offering.

<i>Variable or Attribute</i>	<i>Value levels</i>
Amount of OER available	Minicourse; 10%; <u>100%</u>
Course package	<u>All course materials + 3 examination efforts + study guidance;</u> Only open materials
Costs course package	€115; <u>€230 (+ €40 material costs + €55 legal fee)</u>
Availability social media	Available after free registration; <u>Not available</u>
Duration of studying course	<u>Self determined</u> ; Prescribed
Pace	<u>6-9 hrs/wk for 15 weeks</u> ; 10-15 hrs 10 weeks; 16-20 hrs 7 weeks; >20 hrs 5 weeks
Mode of Guidance	Personal presence; On distance interactive; <u>On distance non-interactive</u>
Intensity of guidance	<u>General</u> ; Intensive €300; Intensive €500; Intensive €700
Lifelong Learning prescription	€10 per month; €20 per month; €30 per month; <u>none</u>
Proof of participation	<u>Legal certificate</u> ; Certificate; none

Table 1. Variables or attributes and value levels to describe a wide variety of possible (but also including many hypothetical) offerings

Theoretically the total of offerings is 2508. In the surveys only a fraction of this total was used. By fractional factorial design it was possible to use a small subset yet producing relevant information about the most important features of the problem under study. It is beyond the scope of this chapter to discuss the methodological and technical aspects of this statistics technique.

## 6. MAIN FINDINGS

There is a rich source of data generated through the two surveys. In this chapter, however, we will concentrate on the findings with regard to the three scenarios. In figure 4 the preferences for the current and the 10% scenario are compared with the 100% scenario.

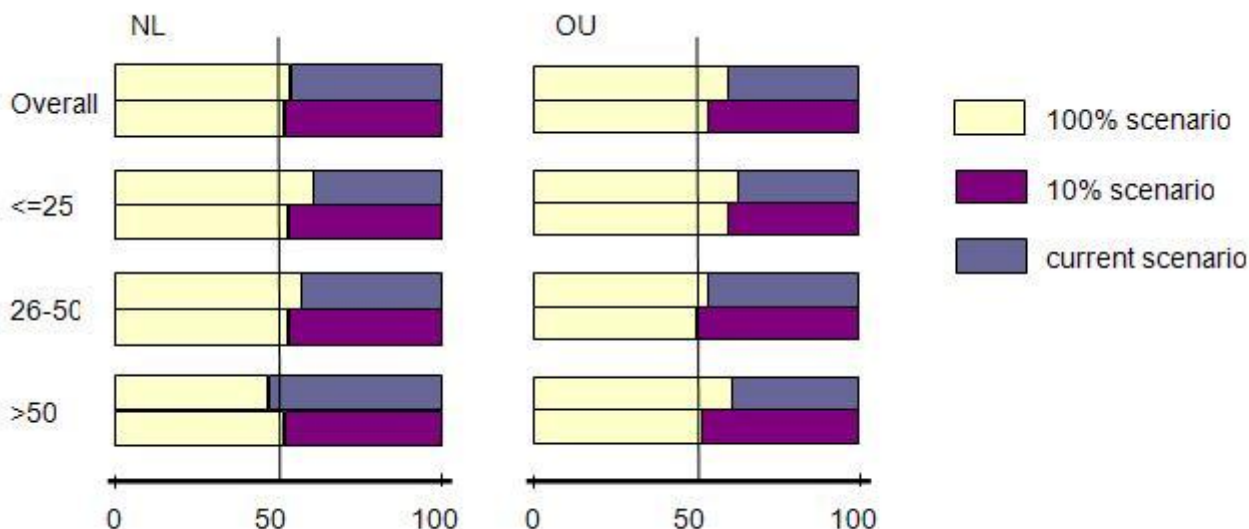


Figure 4. Preference for the 100% scenario versus the current and 10% scenarios

The graph above has to be interpreted as follows.

If one looks at the upper bar on the left (Overall, NL sample), the current scenario has been compared with the reference offering (which corresponds to the 100% scenario). 46% of the population prefers the current scenario, so 54% prefers the 100% scenario. Similarly 48% prefers the 10% scenario and 52% prefers the 100% scenario.

The graph also shows that the group of people under the age of 25 shows a significant preference for the 100% scenario in both samples. One should also note the difference in the age group of >50 years: 61% of the OUNL population prefers the 100% scenario compared to the current scenario, while in the NL sample 53% prefers the current scenario.

We would like to add some more interesting information from the surveys:

- For the OUNL population cutting the price of a course into half will lead to an increase of 10% of people taking the course. This holds both for the young and the old age group. For the NL population this variable has a less significant effect.
- For the OUNL population the preference for a course package with only open materials is less than the alternative package. Depending on the price of the certificate the preference is 29% (for the lowest price) to 20% (for the highest price) lower. The same pattern holds for the NL population.
- For both populations intensive guidance (at additional cost) lowers the attractiveness of the offering, compared to the reference offering. This effect is stronger when the price for the intensive guidance is higher.



- For both populations a so-called lifelong learning prescription (at additional cost) lowers the attractiveness of the offering. This effect is minimal for the older group in the OUNL population.
- For both populations a shorter but relatively heavy study load lowers the attractiveness of the offering. Especially the middle-aged group is sensitive for this.

As mentioned before, for each alternative set with two cases each individual was asked whether s/he actually would take the preferred offering and enroll if it would be available. In figures 5 and 6 the results for this question are shown for the three scenarios.

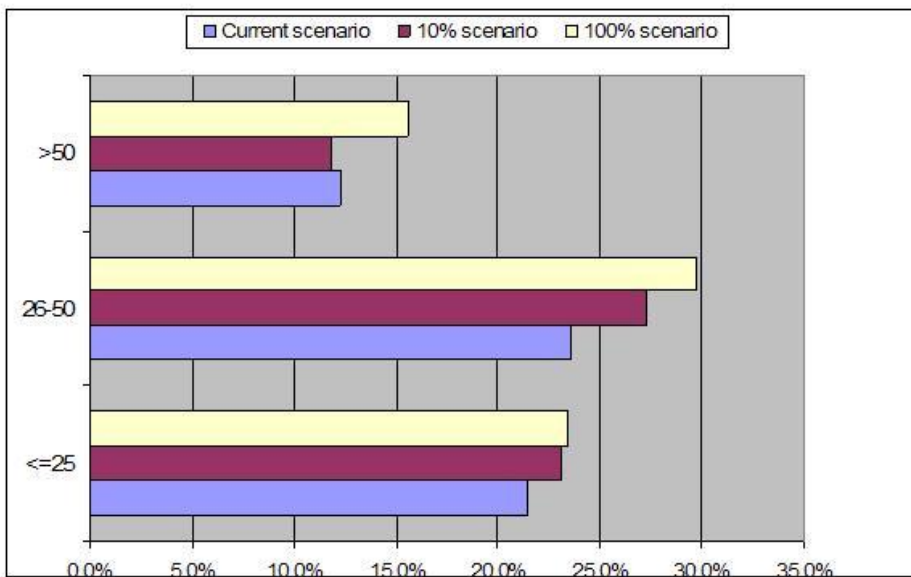


Figure 5. Probability of actually taking the course, NL population

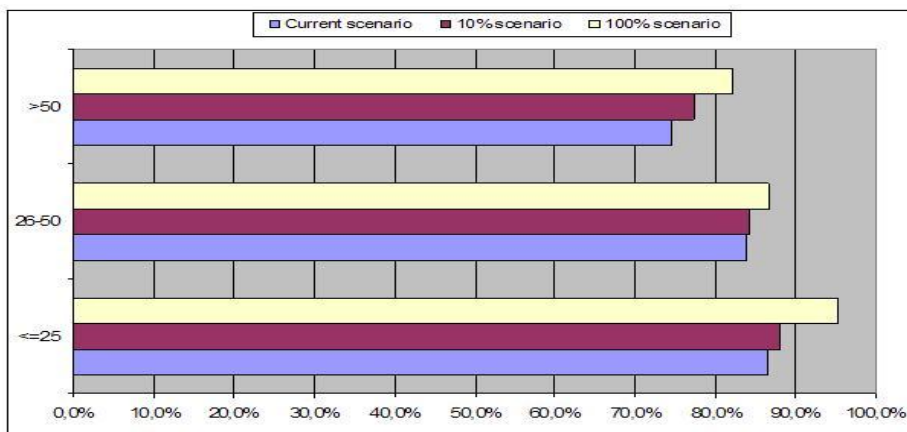


Figure 6. Probability of actually taking the course, OUNL population



While the percentages of people who indicate that they will register for a course differ substantially between the two populations (10-30% versus 75-95%), the outcomes show the same pattern, namely that the number of people inclined to take a course increases when the amount of OER increases. In the 100% scenario only the 'bare' content will be published. Yet more respondents are willing to pay for the additional learning services. It is not clear from the survey results why this occurs since respondents have not been asked to motivate their choices. A possible explanation is that in this scenario a (potential) student would get the best picture of the course and therefore would be more tempted and challenged to actually internalize the content, for which the (paid) services are needed.

A possible explanation for the big differences in the percentages for the two populations is that OUNL students are already familiar with the type of study at OUNL and therefore more prepared to actually take a course than the random sample from the Dutch population.

From a business perspective it is interesting to see what the preferences are if we compare 'only using OER' (without a proof of participation) and 'buying the course package'. Tables 2 and 3 present the preferences for the three scenarios.

	<=25 yrs		26-50 yrs		>50 yrs	
	Course	OER	Course	OER	Course	OER
Current	18.2%	1.0%	15.2%	7.9%	7.1%	1.3%
10% scenario	19.4%	1.1%	17.6%	9.2%	6.6%	1.3%
100% scenario	19.8%	1.1%	18.9%	10.0%	9.1%	1.4%

Table 2. Preference for course package versus only OER, NL population

	<=25 yrs		26-50 yrs		>50 yrs	
	Course	OER	Course	OER	Course	OER
Current	68.9%	9.0%	71.5%	7.4%	56.8%	8.8%
10% scenario	71.0%	9.3%	71.9%	7.4%	59.9%	9.1%
100% scenario	79.7%	10.7%	74.5%	7.6%	64.6%	9.9%

Table 3. Preference for course package versus only OER, OUNL population



The findings show that only a minor part prefers to only use the OER component (when no proof of participation is possible). The outcomes for a situation in which a certificate for participation can be obtained for €50 are shown in tables 4 and 5.

	<=25 yrs		26-50 yrs		>50 yrs	
	Course	OER	Course	OER	Course	OER
Current	17.7%	1.4%	14.9%	8.5%	7.1%	2.9%
10% scenario	19.0%	1.6%	17.6%	9.2%	6.7%	2.7%
100% scenario	19.2%	1.8%	19.0%	10.4%	9.1%	3.4%

Table 4. Preference for course package versus only OER with a proof of participation, NL population

	<=25 yrs		26-50 yrs		>50 yrs	
	Course	OER	Course	OER	Course	OER
Current	58.1%	22.8%	64.2%	15.8%	50.6%	17.6%
10% scenario	59.6%	23.6%	64.7%	15.8%	52.7%	18.6%
100% scenario	66.8%	25.4%	66.3%	16.6%	56.8%	19.9%

Table 5. Preference for course package versus only OER with a proof of participation, OUNL population

Comparing both situations for the NL population (tables 2 and 4), there is little difference in preferences. There is a substantial difference, however, for the OUNL population (tables 3 and 5). This population can be divided into two subgroups: students committing to obtain a Bachelor or Master degree and students only aiming at taking some courses. A more detailed analysis taking this into account explains the substantial difference. The group not committed to a Bachelor or Master degree prefers the OER with a proof of participation above taking the OU course. Among the Bachelor and Master degree students the difference is small (and not significant). These results show it is not advisable to offer the possibility to buy a proof of participation as a separate service.



## 7. LEARNING ACTIVITY

INSERIR IMAGEM oer 02

OER 2: Business Model Canvas Explained

Author: Businessmodeltv

Source: <http://www.youtube.com/watch?v=QoAOzMTLP5s>

Objectives: explore.

License: Creative Commons CC BY

## 8. CONCLUSION

The objective of the research described in this chapter was to gain a better insight into the effects of three OER based offerings of the Open Universiteit on the behaviour of (self)learners, with regard to their enrolment into the Open Universiteit. Open universities are faced with specific challenges when offering their learning materials as OER. Their courses traditionally are developed to be used for independent learning. By offering such courses as OER an important source of revenues might vanish, since learners might not opt anymore for paid enrolment.

The three scenarios analysed were a '100% OER' scenario in which the business model of the OUNL is entirely based on additional learning services to be paid for. The second scenario was the current model in which OER plays a minor role, in the form of short courses in a marketing driven approach. And the third scenario was an intermediate ('10% OER') scenario in which OER plays a more significant but still modest role, the business model being based on a substantial share of learning materials still to be paid for plus additional paid learning services.

The approach taken was the so-called stated preference method, a probabilistic research technique by which decisions of individuals in particular contexts can be predicted. We have asked respondents (a sample of OUNL students and a sample of the Dutch population) to state their preferences and to make trade-offs amongst different alternative educational offerings, all based on OER. From these trade-offs we have estimated their willingness to register for and to pay for various types and combinations of open education by the OUNL.

The most prominent conclusion of our research is that through all the outcomes presented we can observe a similar pattern, which is that the percentage of people inclined to take a course and to enrol increases when the share of OER in the offerings grows: the more OER offering, the more people and OUNL students seem to be inclined to enrol.

This contradicts with the general impression we had when we started the research: "aren't we giving away our crown jewels when we commit ourselves totally to OER?". Surely, there may be a difference



between stated preferences and revealed preferences. But we are inclined to say, based on the methodological thoroughness of the stated preference method, that the findings may be welcomed as a relevant and encouraging OER stimulus for open universities which are generally in great uncertainty about and deeply searching for a sustainable OER approach. A little warning though: the results are not always statistically significant, so it would not be valid nor recommended to make absolute statements about the specific numeric results. To remain on the safer side one could conclude that the 100% OER scenario would not do worse compared to the current scenario in terms of enrolment of students.

## **9. FUTURE WORK / LESSONS LEARNED**

The results of this study will be used by the Executive Board of the Open Universiteit in deciding which road will be taken in the OER journey. We are planning to do a more detailed research for the 100% scenario. We are especially interested in the motivations by respondents who prefer paid services when offering all content for free.

During the first half of 2012 the phenomenon of MOOCs (Massive Open Online Courses) has received much attention as many Ivy League universities in the United States have started or widened their activities in this field with edX, Udacity and Coursera. Where in open universities only the enrolled students have feedback and rights to assignments, in MOOCs quality assured courses are online available to massive numbers of students outside the institution, often available through multimedia. Feedback is provided by the institution (though in most cases automated) and assessment is open. As far as we can see now, these types of open higher education may not only be a threat, they also open new perspectives for open universities, especially in the field of learning services they could offer in complement to the MOOCs. In current research we are investigating this proposition.

More in general we are preparing for a study-in-depth of the concept of Open Education as compared to traditional ('closed') education. In particular it is relevant to reflect on the future perspectives of the classical representatives of Open Education, the Open Universities, in this emerging alternative innovative world of Open Education driven by purely online learning routes.

## **ACKNOWLEDGMENTS**

The surveys were conducted by CentERdata, a research institute of University of Tilburg, specialized in panel research and (economic) model development. (Nelissen et al. 2011a and 2011b). This research was made possible by a grant from the Dutch Ministry of Education, Culture and Science. A valuable contribution to the research was made by our former colleague Dr. Anne Helsdingen.

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## LICENCE

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