



Eliciting the challenges and opportunities organizations face when delivering open online education: A group-concept mapping study



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ABSTRACT

The global attention for open online education (OOE) caused a situation in which higher education institutions (HEIs) reconsider the way they deliver education to the population. With a funding policy, the Dutch Government aims to stimulate OOE in HEIs. The goal is to create more expedient, accessible and personalized learning experiences, that contribute to an improvement of quality of education and study success. However, many projects are failing to embed OOE within the institution. In this study, we elicited the challenges and opportunities of OOE projects within an organizational context of Dutch HEIs by using group concept mapping. Multidimensional scaling and hierarchical clustering resulted in a cluster map and a pattern match graph for interpreting the experts' ideas and opinions, clarifying and structuring the collective understanding. Core themes that represent the challenges and opportunities with regard to OOE identified in this study were: 1. *Online teaching*, 2. *Supporting mechanisms*, 3. *Assessment*, 4. *External target groups*, 5. *Educational flexibility*, 6. *Quality of education*, 7. *Institutional reputation*, and 8. *Educational efficiency*. The results indicated a skills gap among educators and a lack of central support for the development of OOE. Organizational efforts to implement OOE should take *educational flexibility* and *online teaching* into account and support mechanisms for OOE should be provided.

1. Introduction

The global attention and growth for open online education (OOE) caused a situation in which higher education institutions (HEIs) increasingly reconsider the way they deliver education to the population. Additional pressure to cope with this situation also arose from a growing global higher education market with increasing competition for students. To complicate things further, there is an ongoing rapid diffusion of technology, that gave rise to the development of new educational practices (Allen & Seaman, 2014; Christensen, Horn, & Johnson, 2008; Yuan & Powell, 2013). All these issues generated significant levels of interest in Massive Open Online Courses (MOOCs) as they offer a promising sustainable approach to open up online learning for students all over the world (O'Connor, 2014; Ossiannilsson, Altinay, & Altinay, 2016).

Correspondingly, the Dutch government aspires to remain open to these trends and developments in open and online higher education. This was announced more specifically in a letter issued in 2014 by Minister Bussemaker (Dutch Ministry of Education, Culture and Science, 2014) to the House of Representatives where it is stated that

OOE can serve as a driver of quality in diversity in education. Not only can OOE drive this through improving Dutch HEIs (international) reputation and by attracting talented teachers and researchers, but additionally through improving teaching by providing open access education, sharing educational materials, connecting with more individuals in informal contexts creating opportunities to transition to formal higher education or lifelong learning activities. However, she also states that there are still steps to be taken in order to capitalize on these opportunities. Since each institution has its own identity, each institution will only be able to determine which approach works best for them by experimenting, evaluating the outcome, and learning from it. Hence, in 2015, the Dutch government introduced a national funding policy that aims to stimulate better and more use of OOE in Dutch HEIs (Surfnet, 2017). The broader goal for this funding program is to create more expedient, accessible and personalized learning experiences for students, that contribute to an improvement of quality of education and increased study success. The funding will run from 2015 to 2018, with an annual budget of one million euro's, and a 2-million-euro budget in 2018. Yearly this funding program therefore produces approximately 8 to 12 OOE innovation projects initiated at accredited Dutch HEIs that

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have a runtime of 16 months at maximum and will be facilitated by SURF (semi-governmental non-profit organization for promoting and supporting the use of ICT in Dutch HEIs) (Surfnet, 2017).

In contrast to this ambition, the majority of HEIs are characterized by a highly institutionalized way of working, inhibiting innovations such as OOE. In many universities, even though there is funding, OOE is still seen as an added form of education and in some cases as a temporary project rather than becoming a central part of the educational model and strategy of the organization. On the other hand, there are some institutions that are beginning to experiment with OOE projects, like also the funded SURF projects. These institutions are choosing explicitly to participate in OOE because they pursued the funding for their projects, and have an explicit goal in mind and want to reach this by means of teaching open and online. It is, thus, important to unveil how these kinds of institutions need to engage with the expansion of OOE that can make or break the success on the short- and long term as well as its contribution towards the sustainable quality of education (Blackmon, 2016; Schneckenberg, 2009; Stevens, 2004).

An explanation for the lack of integration of OOE on an organizational level can be found in innovation adoption literature (Singh & Hardaker, 2014). According to the innovation diffusion theory by Rogers (2002), innovations have characteristics that affect the degree of adoption. The adoption of an innovation through perceived innovation characteristics of social system members explains the decision of innovation adoption. In other words, when close colleagues within your network already, in a sense, accepted characteristics of an innovation, the adoption by others will be influenced by this subjective perception. Rogers (2002) states that potential adopters' perceptions of an innovation's characteristics are more important than are objective measures of them, because 'most individuals evaluate an innovation not on the basis of scientific research by experts, but through the subjective evaluations of near-peers who have already adopted' (p. 990). In this light it is very important to consider these social system members that are closely related to, or working in collaboration with others on a regular basis, also known as near-peers within HEIs, in order to investigate OOE as innovation.

However, systematic research at the organizational level in the educational field is still lacking, and serious attention by the sector has not been given to structural implementation and adoption models when developing OOE (Blackmon, 2016; Veletsianos & Shepherdson, 2016). Existing research mainly centered around OOE (governmental) policy, institutional strategy and the demand side of OOE. For example, Hollands and Tirthali (2014) identified six main reasons why universities offer MOOCs: (1) for reaching a higher number of individuals through increased accessibility; (2) for increased branding opportunities; (3) financial improvement to HEIs; (4) they stimulate enhanced academic achievements; (5) promote teaching innovation, and (6) research on teaching and learning. These findings were also identified on a European level, but remained descriptive and non-explanatory (Brown, Costello, Donlon, & Giolla-Mhichil, 2015; Jansen & Schuwer, 2015; Punie, Dos Santos, Mitic, & Morais, 2016) or provided only a low predictable value about the supply side of MOOCs (Blackmon, 2016; Metcalfe & Sastrowardoyo, 2015). Correspondingly, Kalman (2014) described business models of free MOOCs compared to paid distance education, focusing more on the demand side of OOE. However, these and many other studies failed to shed light on the internal organization of the HEIs that plan to implement and develop OOE. In other words, different policy and institutional strategies were rather well explored, but the adoption mechanisms and the barriers and facilitators are still an open question.

In order to mitigate this gap in research, we conducted a study to discover the challenges and opportunities of implementing and running OOE projects within HEIs by examining the institutions that were granted a project following from the Dutch funding program. In the context of this funding program we adopt a broad definition of OOE in the current study, since the applicants for the funding program were

also given a broad definition of OOE to give them the freedom to design a OOE project based on their specific institutions' needs. The definition for OOE we therefore use in this study is the following: open online education is education that is substantially provided online, where materials are made openly available through open licensing (i.e. creative commons), and at least provided 'open' in terms of one of the following aspects: time (i.e. self-paced education), place (i.e. no specific physical location required), program (i.e. flexible learning path), access (i.e. no entry requirements) or free availability (i.e. no monetary obligation). Our research question consequently was:

What are the challenges and opportunities for OOE innovation projects within higher learning institutions as experienced by OOE project leaders?

To answer this question, we will investigate the funded OOE innovation-projects that aim to implement OOE within their respective HEIs. In the Netherlands there is a majority of public universities (i.e. 14 publicly funded, 1 privately funded), and universities of applied sciences (i.e. 37 publicly funded). The projects in our study are located at ten universities, and four universities of applied sciences, of which all are publicly funded. Because these projects cover almost all universities in the Dutch higher educational landscape, we assume that the impact of these projects and the funding program is substantial and representative for the Dutch higher education system.

Our research question can be answered from various perspectives since an organization consists of multiple stakeholder acting at different levels and within various (social and structural) boundaries. As found by previous studies, new studies should not model the adoption and diffusion of innovations in education based primarily on either a micro (i.e. individualist) or macro (i.e. organizational/institutional) perspective, but by using a more integrative approach to examine the complexity and multiple levels and dimensions of social reality (Singh & Hardaker, 2014). Therefore, we decided to take a look at an organization from a structuration theory perspective. The reason for this is that this theory provides a framework that generates a rich understanding when investigating phenomena in an organizational context, overcoming the common social sciences duality of the individual vs. the organization (Berends, Boersma, & Weggeman, 2003; Morris & Tsakissiris, 2017; Pozzebun & Pinsonneault, 2005).

The basic principle of the theory of structuration is the balance between structure and agency with neither one nor the other being dominant. The presumption is that social actors have a purpose and are knowledgeable individuals with the ability to make choices. These choices will be facilitated or hindered by structures of both a social and physical nature (Giddens, 1979; Giddens, 1984). We answered the question by exploring the experiences and views of OOE experts and project leaders because they can be recognized as knowledgeable actors in the implementation of OOE initiatives in their organization. They have a unique view on the organizational challenges and opportunities that arise and exist within these specific Dutch HEIs, dealing with the structural properties and the social practices that arise within their specific organizations.

The article is structured as follows. We will start with describing the group concept mapping (GCM) technique, a technique developed by Trochim (1989), and which is applied in our study. We will thereafter explain who our participants were, which procedure we followed and which instruments we used. Thereafter, we present the findings of the GCM, and report on the results. In the last section, we discuss the implications of our findings for research and practice, the limitations of our study, and next steps for future research.

2. Method

2.1. Group concept mapping

A technique to identify a group's shared understanding of a certain issue is Group Concept Mapping (Jackson & Trochim, 2002; Trochim, 1989). The approach is a structured method that includes both

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