



Is there a Scandinavian model for MOOCs?

Understanding the MOOC phenomenon in Denmark, Norway, and Sweden

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Abstract

This article is guided by the following overarching question: Is there a Scandinavian model for massive open online courses (MOOCs)? We study MOOCs in the Scandinavian context and investigate digital transformation in higher education (HE). Based on a review of the current academic literature on MOOCs in Denmark, Norway, and Sweden and a document analysis of government reports and white papers, we identified similarities and differences between MOOCs at higher education institutions (HEIs) in these countries. We found that the delivery of MOOCs is linked to new forms of negotiations and tensions between academic, administrative, and ICT staff and, to some extent, government involvement. We also found that the governments' roles differ in terms of the development of MOOC offerings and their overall engagement with digitalisation at HEIs. Moreover, MOOCs have developed at their own pace and have brought renewed attention to teaching and learning with technology, with some spill-over effects on campus-based programmes at HEIs.

Keywords

digital learning, digitalisation, massive open online courses, national context, Scandinavia

Massive online open courses (MOOCs) have developed and spread out at a slower pace than initially predicted (Ng, 2013), and they have developed in conjunction with countries' distinct education systems and local demands. In this article, the focus is on MOOCs in the Scandinavian countries: Denmark, Norway, and Sweden. These societies and their respective national higher education (HE) systems share a multiplicity of characteristics and tend to be seen as models for one another across a variety of policy domains, HE included (Pinheiro et al., 2016). In policy circles, there is a tendency to group the Scandinavian countries together, but we are aware that there are substantial differences between them. With this in mind, we explore whether MOOC offerings in these countries share a set of common fea-

tures that may or may not provide support for the notion of a shared model. By inquiring whether and to what extent there is a Scandinavian model for MOOCs, our aim is to unpack the dynamics and effects of broader processes of digital transformation in higher education institutions (HEIs) within the case countries. Therefore, we propose the following research questions (RQs):

RQ1) To what extent does government policy in Denmark, Norway, and Sweden shape the development of MOOCs at HEIs?

RQ2) What are the similarities and differences between the MOOC offerings in Denmark, Norway, and Sweden?

Insights from our study might be useful in light of the COVID-19 health crisis, which will undoubtedly impact the adoption of digital technologies and solutions at Scandinavian HEIs.

Setting the Scene: Digital Transformation in HE and MOOCs

Here, digital transformation is understood as more than just the digitisation of organisational activities and materials; it also pertains to digital technologies' potential to disrupt organisational structures, practices, and goals (Vial, 2019, p. 118). Digital transformation is a dominant feature of twenty-first century HE, globally (Surstock, 2015). In their original incarnation, MOOCs were defined as 'courses designed for large number of participants accessed by anyone anywhere (as long as they have an internet connection), open to everyone (without entry qualifications), and offers a complete course experience online for free' (Jansen & Schuwer, 2015, p. 4). MOOCs point to ongoing trends that have broader relevance for the digital transformation of HE. For example, via MOOCs, we can study the scope and degree of involvement of technology providers in the sector, the changes these relationships bring to traditional learning, and how HEIs are transforming as organisations. Various MOOC conceptualisations have emerged around the world and are often adapted to specific local cultural, political, and economic circumstances (Tømte et al., 2017; Shah, 2019). The variety of practices and understandings surrounding MOOCs reflects the capabilities and limitations of countries' technological infrastructures, their historical trajectories and natures, and a profile of their respective HE systems and providers. Nonetheless, to date, there are few studies where the national or regional context is analysed as an explicit variable. Our study provides a novel contribution to fill this gap.

In 2018, more than 900 universities worldwide offered at least one MOOC—most of them in partnerships with EdTech companies (Shah, 2018). This trend is rather typical for English-language MOOCs offered by leading EdTech companies and may reflect the lack of formal recognition for such degrees in the job market or by academic institutions. Over time, there has been a shift in focus away from renewed attention to online learning within traditional on-campus education and towards expanding enrolments to non-traditional student audiences and using MOOCs as a means of enforcing 'modernisation' efforts at HEIs.

Theoretical Approach

We propose a typology of MOOCs, including two initial main categories, namely 'motivation' and 'content' (Tømte et al, 2017). 'Content' includes various target groups and types of accreditation, such as heterogeneous groups of students in terms of geography, occupation, and education. These MOOCs are typically held in English, Spanish, and French and are

available to anyone with an interest in the subjects. Other MOOCs target narrower groups of students and more often adopt local languages, such as Norwegian, Danish, and Swedish, and target specific occupational groups, such as teachers. Countries and their HEIs' motivations for setting up MOOCs span from scalability, openness, and access, to branding and innovating pedagogics. Based on the diversity of MOOC characteristics, the typology referred to above provides an analytical framework to map the diversity of MOOC developments. The typology suggests two development paths: the *national mediation* and *global disruption* paths. National mediation pertains to formal niche-market MOOCs that target narrow groups of students and provide formal recognition within one or more countries. Global disruption pertains to informal mass-market MOOCs, as they target broad groups of students in the absence of a national accreditation system (Tømte et al, 2017). Previous studies have suggested that most Scandinavian MOOCs tend to follow the national mediation path (Tømte et al., 2017; Dalipi et al., 2018). These studies do not provide any information about the kinds of instruments governments and HEIs employ in the development of MOOCs or the academic environment in which they emerge. In this article, we focus on these neglected aspects.

To understand how MOOCs have developed at Scandinavian HEIs, we leverage the theoretical concept 'travelling of ideas', which was developed by Sahlin and Wedlin (2008) in the context of the organizational studies paradigm of Scandinavian New Institutionalism (SNI). They introduced two notions, 'adoption' (global templates with no contextualisation) and 'adaptation' (localisation in light of context-specific circumstances). SNI is particularly useful for addressing how the interplay between global, national, and local factors influences the diffusion and adaptation (editing) of ideas such as MOOCs (cf. Beerkens, 2010) and how MOOCs are handled by policymakers and implemented by practitioners at HEIs (cf. Pinheiro & Stensaker, 2014). We are entering what could be categorised as a 'phase of normalisation' of the MOOC field in the selected countries, moving away from the 'hype' of earlier years (largely driven by Anglo-Saxon players) towards national policy initiatives giving online and distance learning a prominent role in HE, which has been observed in Norway, where a government report on MOOCs was published in 2014 (NOU, 2014).

When a popular idea like MOOCs travels across different national HE systems and HEIs, how does it materialise in national and regional contexts that are different from each other (e.g. in historical and cultural terms)? Following SNI, our analytical assumption is that general abstract ideas about MOOCs travel across national contexts, but the whole set of practices associated with the original development does not. Ideas provide a generic template for legitimate action but fall short of giving local actors a precise blueprint of what needs to be done—when and by whom. Policy, here intended as a set of binding regulative prescriptions adopted at the organisational level of HEIs and the national HE system, is likely to play an important role in the implementation and subsequent institutionalisation of MOOCs.

Research Approach and Data

Our research approach is supported by two main sources of data. First, a review of the research literature on MOOC initiatives in the Scandinavian countries published between 2016 and May 2020 will explore rationales for the development of MOOC offerings across the three countries. Second, we draw data from government white papers, reports, and strategies that address HE and issues on teaching, learning, digitalisation, and documents that specifically address MOOCs.

Employing a deductive approach guided by our research questions, we conducted a thematic analysis (Braun & Clark, 2006) of the policy documents and academic papers, organised according to country. This allowed us to explore similarities and differences across the countries and to map their uniqueness. All research papers were reviewed and coded following a joint scheme where we identified whether and how the papers inform us about the following topics: disciplines (organisation, learning design/design for learning, and professional continuing education); stakeholder perspectives (user perspectives and overall organisational perspectives); and motivations for the development of MOOCs.

We searched for research papers via Web of Science and in databases such as ScienceDirect, ERIC, and Google Scholar. We searched keywords such as ‘teaching and learning in HE’, ‘digitalisation’, ‘digital transformation’, ‘online learning’, ‘technology’, and ‘MOOC’. Government documents and white papers were identified via the snowball method, which started with web browsing of the national authorities’ public websites, such as the relevant ministries of education and research websites. We also found links to these types of documents from the research papers on MOOCs and digitalisation of HEIs in the Scandinavian countries. We found fewer policy documents from Sweden than from either Denmark or Norway.

There are some limitations associated with such a research approach. Document analysis of white papers, strategies, and overall plans along with documents and reports for the authorities gives us some insights from the governance perspective, but such sources of data also exclude the public debates connected to them. Our review of research papers also has some limitations, since the sources used are written by researchers with academic interests in MOOCs and with specific research aims and scopes that might not include all relevant perspectives.

Findings

Denmark

We identified eight papers on MOOCs published in Denmark between 2016 and 2020. Four papers (Gynther, 2016; Christensen et al., 2016; Christiansen et al., 2019; Daalhuizen et al., 2018) addressed design for learning in MOOCs from diverse theoretical strands. One addressed collaboration with HEIs and Danish EdTech companies (Alstrup et al., 2017) and two covered issues related to teachers’ professional development (Christiansen et al., 2019; Gynther, 2016). Moreover, two of the latter studies included MOOCs affiliated with international MOOC providers such as FutureLearn (Christensen et al., 2016) and edX (Daalhuizen et al., 2018). Overall, these are theoretically driven contributions that explore MOOCs’ potential for developing new ways of teaching and learning. Few address institutional aspects that inform us about the context of MOOCs’ emergence. However, Christensen et al. (2016) describe the development and administration of a MOOC on the works of Danish novelist Hans Christian Andersen. The paper provides some information on the reasons for establishing the MOOC, such as HE brand-building, which was pursued on the FutureLearn platform. Moreover, this MOOC is offered in English and aims to reach a global audience. The selected studies have been conducted by scholars from educational and computer sciences. Little is said in these studies about the funding sources or the reasons for initiating the MOOCs. These papers do not provide any substantial information about whether the government has been involved in the development of MOOCs.

To gain more insight into these matters, we looked to the grey literature, including government publications and information published on the Ministry of Education’s websites,

in addition to papers that give an overview of the Nordic MOOC landscape (Dalipi et al., 2018). Key findings report that MOOCs in Denmark have mainly been internal HEI initiatives with limited government involvement. Most MOOCs are offered in English and connected to international MOOC platform providers (Dalipi et al., 2018). In 2016, the Danish Accreditation Institution, a government agency, published a report about the status of MOOCs in the country. The main objectives were to explore the possibilities and constraints that come with this type of educational offering and to analyse whether and how it can be integrated into existing HEIs' study programmes. Key findings suggested that HEIs have increasingly made efforts to bridge campus educations and MOOCs as a means of blended learning course offerings. This type of connection between campus-based lectures and MOOCs was thought to lead to improved quality, such as providing more opportunities for students to broaden their perspectives in distinct knowledge domains or specialise in fields that were not offered at their home university. However, several barriers were observed, and financial issues were a deciding factor as regards universities' intentions to develop MOOCs. In addition, some HEIs identified students' mediocre English skills as a barrier, while others questioned their general quality issues related to copyright of course content and the challenge of coordinating and synchronising campus courses with MOOCs. Finally, the report highlighted the need to revisit current rules for accreditation at HEIs, which are considered to be a hindering factor mainly due to differences in structure and form between MOOCs and other course offerings.

Norway

In Norway, between 2016 and 2020, a total of 11 papers were published on MOOCs, and a report on MOOC initiatives funded by the government was also produced (Koch, 2017). Five of the papers addressed MOOCs offered by a single HEI: Norwegian University of Technology and Science, NTNU. Eight papers tackled various perspectives on 'design for learning'. Some include perspectives on the pedagogical ideas behind the MOOCs, such as the role of video (Egeness et al., 2020), student active approaches (Samuelsen & Graven, 2016; Kolås et al., 2016), and new pedagogical approaches (Koch, 2017; Tømte, 2019; Haugsbakken et al., 2019). Other papers addressed users' perspectives. For example, Singh and Mørch (2018) shed light on participants' experiences and pedagogical design, whereas Jacobsen (2019) explored participants' motivations and learning strategies. Three papers addressed the role of MOOCs from organisational perspectives, including how they might act as strategic means for continuing professional education purposes (Koch, 2017; Langseth et al., 2018, 2019; Haugsbakken et al., 2019; Tømte, 2019) and how the conceptualisations of MOOCs as educational offerings challenge existing organisational structures (Tømte, 2019). Two key findings were that MOOC initiatives resulted in pedagogical innovations and met administrative challenges. Two papers discussed the role of international MOOC platforms in the context of the national HE system (Langseth et al. 2019; Tømte et al., 2017), concluding that they have had limited influence on the development of MOOC.

Contrary to the Danish papers, most of the Norwegian papers on MOOCs were empirically oriented single case studies, illuminating MOOC initiatives at specific HEIs. Several addressed pedagogical innovations and user perspectives, including continuing professional education. As in Denmark, the researchers behind these studies emerged, in most cases, from the pedagogical and computer science fields. However, papers from Norway also addressed organisational issues, such as contextual information, including diverse types of institutional challenges, namely understanding, organisation, and communication of the course offerings. One key takeaway from the studies addressing such issues is that

MOOC delivery faces several types of organisational obstacles. These include accreditation challenges due to their openness and the need for increased administrative efforts resulting from scalability and high enrolment, such as serving a larger number of students and offering an innovative peer-based pedagogical profile for distance-based learning (Tømte, 2019). Another observation pertains to the role of the central government, which has been actively funding MOOCs, and government agencies have also been involved to some extent in the development of new MOOC offerings for continuing professional education for teachers (Egeness et al., 2020; Tømte, 2019; Langseth, 2018).

In the initial years of the MOOC phenomenon, from about 2012 onwards, the possibilities and constraints associated with this new type of HE offerings were highly debated in the media, by scholars, policymakers and others interested in HE and educational technology (Tømte, Fevolden & Sutherland, 2014). The government's response was to set up a working group tasked with providing advice on how domestic HEIs should approach MOOCs. Their final report included several recommendations, including increasing government funding to boost digital transformation in HEIs. The recommendations addressed by the working group were not further elaborated for some years. This may also be seen in relation to the fact that, after 2014, the MOOC hype seemed to have flattened out in Norway and elsewhere (White, 2014). The government had meanwhile initiated and funded several MOOC-like joint initiatives with HEIs, such as continuing education for professionals. Norway's central government has also promoted digital transformation of HE through voluntary mergers involving HEIs—a nationwide process initiated in 2009 and aligned with developments across the Nordics (Pinheiro et al., 2016)—through white papers (St Meld 16, 2016–2017), a national strategy for digitalisation of HEIs (2018), and a national action plan for digitalisation at HEIs (2019). During the same period, most HEIs developed local plans and strategies for digitalisation (Fosslund & Tømte, 2020). Different areas of digitalisation in HEIs were supported and funded by different government bodies, indicating the adoption of a multi-level governance approach (Geschwind & Pinheiro, 2017).

Sweden

Regarding research from Sweden published between 2016 and 2020, our review identified 14 papers, including a book chapter on MOOCs (Barman et al., 2019) and a master's thesis, both addressing MOOCs from an organisational perspective (Nguyen, 2019). Unlike the papers from Denmark and Norway, several of the studies on MOOCs in Swedish HEIs are empirical contributions that explore developments within medical and life science education (Kononowicz et al., 2015; Henningsohn et al., 2017; McGrath et al., 2017; Berman et al., 2017; Statharakou et al., 2018; Berlund et al., 2019). In these papers, the authors shed light on the pedagogical potential of online learning to reach out to new groups of students within specific knowledge fields, such as urology (Henningsohn et al., 2017), virtual patients (Statharakou et al., 2018), and scaling up the number of students in ergonomics (Berglund et al., 2019). Several of the studies mentioned here were conducted at HEIs that have international recognition in life science and medical education. Moreover, these MOOCs are connected to global platforms such as edX, Coursera, and FutureLearn.

Like Norway, Sweden has a long tradition of distance-based education, reaching out to regular students that live in remote areas and people at different stages of their lives and careers. A key contribution to MOOC knowledge includes papers that explore the possibilities around continuing professional education for teachers. Some scholars explore how MOOC might serve as a means of changing the existing structure of continuing education in remote areas (Karlsson & Godhe, 2016; Norberg et al., 2015), whereas others

highlight MOOCs' pedagogical potential as flexible and open to everyone (Olsson, 2020; Stör et al., 2019).

Studies on MOOCs also address organisational issues. For example, Barman et al. (2019) investigated how MOOCs that emerged within three Swedish universities were developed to reach out to newer groups of students and how MOOC initiatives connected to HEIs' ongoing digital transformation processes within teaching and learning. One of their conclusions was that MOOCs are now being used strategically to pursue organisational innovation at HEIs, hence moving beyond the provision of online education as such. Similarly, Nguyen (2019) demonstrated how a MOOC initiative at Uppsala University was used to strategically pursue joint activities with Gotland University following the merger of the two institutions. In contrast to the Norwegian approach, the Swedish Higher Education Authority (UKÄ) did not provide any earmarked funding for the development of MOOCs. According to Nguyen (2019), Swedish government policy is geared primarily towards the promotion of Swedish HEIs in an international context and global trends in the context of global competitiveness and market attractiveness.

The Swedish government has not played an active role in the development of MOOCs, with most offers at Swedish HEIs being connected to international providers. The UKÄ 2019 report called this lack of involvement from the government problematic (UKÄ, 2019). For example, there has been a lack of overall national guidelines towards data protection and security—issues that may emerge when using international MOOC platforms and providers (Kahlroth et al., 2016). Another observation is that the number of courses has increased during the years (Barman et al., 2019). As in Denmark and Norway, MOOCs are also seen as difficult to integrate into regular courses offered by HEIs due to their openness and accreditation challenges (Barman et al., 2019).

As of yet, Swedish authorities have not provided the HE sector with an overall strategy for digitalisation, despite recommendations to do so (UKÄ, 2019). The rationale for adopting a national strategy, according to the UKÄ, is centred on the notion that HEIs require overall guidelines for pedagogical development that meet labour market needs and promote lifelong learning. Moreover, the UKÄ stresses that the strategy should include concrete recommendations on how to put it into action, such as funding.

Discussion and Conclusion

A Scandinavian Model for MOOCs?

As demonstrated, governments in Denmark, Sweden, and Norway have been variously involved in the development of MOOCs. Whereas Norway's government has subscribed to a more 'dirigist' policy approach, producing guidelines and providing funding, Denmark and Sweden have taken a more *laissez-faire* approach (Rip & Nederhof, 1986). Initially, Denmark and Sweden left decisions regarding MOOC offerings up to HEIs. This lack of involvement was later flagged as problematic by government agencies in both countries. These agencies later recommended the development of MOOCs as a means of enhancing the overall quality of teaching and learning in HEIs and as a way to connect domestic HEIs to international trends. However, they lacked support in the form of official requirements or funding. In other words, these governments adopted a self-regulatory market-based approach (Maassen & Stensaker, 2003), signalling MOOCs' lack of strategic importance in the domestic HE landscape.

Our findings also show—as suggested by Tømte et al. (2017) and Dalipi et al. (2018)—that the types of MOOCs offered by HEIs in the three countries differ in scope and nature.

MOOCs in Denmark and Sweden are most likely to follow a ‘global disruption path’ connected to international providers and offered in English, thus reaching a global audience. The motivation behind them is branding, scalability—and for many—the opportunity to explore innovative pedagogy. The latter is also recognized as a motivation for Norwegian MOOCs; however, in contrast to Sweden and Denmark, the ‘national mediation path’ dominates, as most MOOCs are only offered in Norwegian and are delivered via the HEIs’ local learning platforms, thus being both less open and more closely linked to core teaching activities. This is a function of the strategic importance attributed to MOOCs by the government, which helped to mobilise critical resources and strategic attention at HEIs, as was the case for another global phenomenon—namely research rankings (Hazelkorn, 2009).

As stated in several of the papers reviewed across the three countries, setting up MOOCs is demanding and requires people with complex skills, including pedagogical design for online teaching and technological and administrative skills.

Revisiting our theoretical framing built around Scandinavian New Institutionalism enables us to detect how the interplay of global, national, and local factors influenced the adoption and adaptation of MOOC ideas differently in the three countries. The findings show some interesting variations. In Norway, the government played a salient, active role in adjusting (editing) the global idea of MOOCs to national conditions and strategic aspirations, with such activities being less visible in Denmark and Sweden. Stated differently, the Norwegian approach suggest that, as predicted by the existing literature, “new meanings were created and ascribed to [new and existing] activities and experiences” (Sahlin & Wedlin, 2008, p. 225). The government acted as a ‘strategic actor’ (Battilana et al., 2009), mobilising HEIs’ attention towards key policy domains, such as quality and continuing education, hence fostering convergence across HEIs. In Sweden and Denmark, this strategic role was left to the HEIs themselves, thus resulting in increasing divergence in the HE sector as regards the scope and types of activities being pursued locally. Given this, it is unsurprising that Swedish and Danish HEIs’ primary motivation was ‘to become similar to others, and, even more to become similar to the most prestigious, leading [global] organizations’ (Haveman, 1993, in Sahlin & Wedlin, 2008, p. 223) through direct association with the global MOOC leaders and their high-profile host universities. In other words, ‘imitation through global branding’ rather than localisation characterise the approach to HE in Sweden and Denmark. From a policy perspective, the observed strategic behaviour reflects the nature of the three domestic HE systems. While the role of the state, and the logic of the ‘public good’ in the governance of HE affairs, remain prominent in all three countries, Denmark and Sweden have taken up more market-oriented reforms and features than Norway, which continues to adopt a more state-centred approach to HE governance and steering (Pinheiro et al., 2019).

Digital Transformation with ‘Scandinavian Characteristics’?

The overall characteristics of MOOCs in the three countries, as empirically demonstrated above, suggest that there is no such thing as a Scandinavian model for MOOCs. Scandinavian countries are not following a single model or approach as regards adoption and adaptation. That said, our study identified similarities across the countries, suggesting some level of convergence. For example, aside from a few exceptions in Norway, most MOOCs in the three countries are initiated internally by local stakeholders at HEIs. These stakeholders are primarily academic staff within the fields of pedagogy and computer science. These initiatives are often motivated more by research interests than by the quest for pursuing innovation in teaching or by HEIs’ needs for branding in an increasingly competitive domestic

and global environment. In the papers reviewed, several initiatives relate to exploring pedagogical design in online contexts. Scaling was addressed as important for the MOOC offerings linked to the international MOOC platform providers and also for those aimed at continuing education for professionals.

A final observation pertains to the fact that, in Scandinavia, MOOCs have developed at their own pace and have brought renewed attention to teaching and learning in the context of digitalisation, with some positive spill-over effects on campus-based education programmes. MOOCs are also emerging as strategic means for pursuing organisational change and adaptation to a dynamic environment more broadly. Future research could explore the complex and non-linear links between government policies, HEIs' strategies, and key internal and external stakeholders in the context of the digital transformation of the HE sector, in addition to shedding light on the effects of digital transformation within teaching and organisational transformation more broadly.

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