Sustainable MOOC Platforms - Searching for Business Models of the Future

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SUSTAINABLE MOOC PLATFORMS—SEARCHING FOR BUSINESS MODELS OF THE FUTURE

Research in Progress

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Abstract

MOOCs went through a typical hype. The promising concept attracted many companies and educational institutions, leading to a massive rush of enrollments. This trend of massive growth lasted for about three years. MOOCs turned out to exhibit several shortcomings, including high production costs and massive drop-out rates. As the world is confronted with pandemic-induced lockdowns, MOOCs are considered viable options to keep up education systems, with traditional methods becoming unavailable. To sustainably unfold MOOCs’ inherent advantages and extend their range and acceptance, a deeper understanding of the underlying business models is needed. Using the well-known Business Model Canvas combined with a classical web-content analysis, we set forth to chart existing MOOC platform business models. Based on the identified concepts, we seek to identify problematic and promising patterns as a basis for optimization. We present preliminary results and formulate propositions that will guide our future research.

Keywords: MOOCs, Digital Platform, Business Model, Online Education

1 Introduction

Traditional on-site education comes with several inherent limitations: It requires all learners and instructors to be at a geographically fixed location at a specific point in time, limits the size of the audience, leads to redundancy (e.g., elementary statistics will be similar around the world, yet taught by thousands of teachers) and might not be the most economically promising mode (redundant persons and recurring every term or year). Consequences range from inflexibility to adjust to individual schedules, over education of varying quality to the unattainability of it in poorer communities (Karnouskos, 2017).

As for many business models, the internet turned out to be a potential disruptor for the educational sector (Kaplan and Haenlein, 2016), as it increasingly allows to eliminate many of the above-stated restrictions. With the so-called MOOC—the Massive Open Online Course—a corresponding novel concept was introduced in 2008 (McAuley et al., 2010; Siemens, 2013b). These courses are characterized by: having fixed start and end dates, being open to anyone (no necessity to be registered at a specific university), having up to thousands of globally-dispersed participants, going beyond mere content delivery, i.e., requiring interaction between students—and hence also their ability to self-organize their participation (Leontyev and Baranov, 2013; McAuley et al., 2010; Siemens, 2013b). MOOCs directly induced a hype but gained constantly less attraction within only a few years (Reich and Ruipérez-Valiente, 2019).

However, in addition to the initially outlined fixable gaps, MOOCs have been attributed with several other, potentially promising characteristics making further investigations seem worthwhile: Several academics (Glass et al., 2016; Karnouskos, 2017) pointed out that the flexibility in access could provide additional
value in executive education, as employees can better fit learning into their schedules. Others, such as Delic and Riley (2020), even go further and see increased potential for supporting life-long learning. Dellarocas and Van Alstyne (2013) perceive content syndication as a pathway to improve the average quality of provisioned teaching while reducing the costs, giving universities more financial space to focus on working with students on an individual level. Furthermore, learning analytics enabled by collecting data through MOOC platforms is understood as an enabler for individualization even in “mass” courses, as it simplifies detecting differences between students (Cooper and Sahami, 2013; Dellarocas and Van Alstyne, 2013). More recently, the pandemic-related need to administer education digitally at short notice has become another relevant concern (Crawford et al., 2020; Lee, 2020; Viner et al., 2020).

However, aside from improving pedagogical (Adamopoulos, 2013) and technical aspects (Chen et al., 2020), understanding how to make MOOCs more sustainable will be critical in improving their economic viability. To resolve this challenge, the logical first step is to investigate the current landscape of MOOC platforms to find successful business patterns. Hence, our first research question is:

**RQ 1:** What are the business models current MOOC platforms pursue?

Given almost a decade of academic and practice work on MOOCs, we set forth to empirically analyze the business models and modes of operation of existing MOOC platforms. Universal business models have already been found to be inappropriate for MOOCs and the corresponding platforms (BizMOOC, 2018). The overall market for MOOCs is still highly dynamic with new players and ideas coming up regularly, leading to a diverse and still diversifying business model landscape with no emergent dominant patterns (BizMOOC, 2018). So far, only a few assessments of business models—especially of MOOC platform providers—are available (BizMOOC, 2018; Epelboin, 2016). Our assessment of business models is based on the Business Model Canvas (BMC) of Osterwalder and Pigneur (2010). Based on this initial descriptive task, we seek to identify common business model archetypes. These will then be subjected to in-depth assessments to determine potential issues and identify business model configurations remaining untested so far. The identified gaps or missing business models can then be used to inform MOOC providers to create alternative provision solutions that exhibit greater sustainability and, hence, can better support the digital delivery of education. Correspondingly, our second research question is:

**RQ 2:** Which patterns in MOOC platform business models are most important to support their sustainable operation?

The following section will provide additional background information about MOOCs in general and their associated business models especially. Within Section 3, we will provide further details on our research approach, before presenting the first findings within Section 4. The last section serves to outline the further research plan and to discuss the intermediate findings in light of the research need outlined here.

# 2 Research Background

## 2.1 Platforms in Online Education

The importance of digital platforms for day-to-day business is constantly increasing, and they had a significant influence on almost every business sector during the last decade (De Reuver et al., 2018). Reasons for their success are—among others—the flexibility regarding application cases (Cusumano, 2010; Rochet and Tirole, 2003), network effects (Belleflamme and Jacqmin, 2016; Song et al., 2018) and the involvement of several parties (Hein et al., 2020). These determinants can be seen as an evolutionary advantage within the digital era. Regarding their business impact, however, multi-sided platforms (MSP) gained most attraction in research and practice. Following De Reuver et al. (2018), a multi-sided platform is simply characterized by “[m]ediating different groups of users, such as buyers and sellers”. Despite the disruptive impact on business, economy, and society, the effects of digital platforms have not been completely researched yet (De Reuver et al., 2018).

This applies in particular to the education domain, although—in the light of all these opportunities—platforms for educational purposes have long been established (Panigrahi et al., 2018; Williamson, 2016).
For those platforms, the term learning management system (LMS) is widely accepted, highlighting the use to administer or govern the platform’s content or roles. To emphasize more on the technical perspective and, thereby, abstracting from the sole managing purpose, an online education platform “is a system which provides integrated support for the six activities—creation, organization, delivery, communication, collaboration, and assessment—in an educational context” (Piotrowski, 2010, p. 31). As this definition sticks to essential technical capabilities of education or e-learning platforms, it simultaneously excludes platforms that provide educational content but do not offer all of those capabilities. YouTube, for instance, provides learning videos and streams but no option for structured assessment. Further, the educational context includes classical university courses and MOOCs. Consequently, platforms serve as a vehicle to make MOOCs accessible to a broad audience. Concerning the characteristic of being multi-sided, the different groups to be mediated (De Reuver et al., 2018) are such as learners and teachers.

Nevertheless, research on the economics of digital education platforms is comparatively scarce. This is surprising since the “good” education follows completely other economic rules than most of the other goods provided via digital platforms, hence, demanding special investigations. The research barely focuses on an economic or business understanding of the overarching concept “online education platform” but instead gives the focus to special platform features or certain, narrow purposes. More specifically, education platform research investigates the impact on learning results (Pasin and Giroux, 2011) or domain-specific use cases (Paechter et al., 2010; Pasin and Giroux, 2011). The research also produced completely new fields of, e.g., serious gaming (Chang et al., 2009; Herranz et al., 2015) or learning analytics (Siemens, 2013a) in which the development of business models is also seen as crucial for continuous success (Freire et al., 2020).

2.2 MOOCs

Similarly to online education platforms, MOOCs gained broad attraction and have been well researched since their advent at the beginning of the 21st century. According to Burd et al. (2014, p.37) “[MOOCs] are online educational materials delivered via an electronic medium and offered freely and openly to learners.” More specifically, MOOCs are characterized by having thousands of globally-dispersed participants (massive), free access (open), the complete online execution and are instantiated in a fixed digital environment (course) (Leontyev and Baranov, 2013; McAuley et al., 2010; Siemens, 2013b).

Four years after introducing the MOOC concept with the founding of three of the now major companies offering MOOCs in 2012, the year was coined “Year of the MOOC” by The New York Times (Pappano, 2012). Around this time, not only the public but also scholars (Adamopoulos, 2013; Kaplan and Haenlein, 2016; Siemens, 2013b) assumed that MOOCs might, in fact, disrupt the education sector, by “democratizing learning” (Siemens, 2013b), offering “free courses” (Siemens, 2013b) and making use of economies of scale (recording once, offering it consistently to a multitude of users).

Compared to traditional teaching settings that can take up individual learner’s needs, MOOCs are explicitly designed to cope with a very large audience. This novelty in education and the opportunity to make knowledge better accessible to a broad audience than ever before led to the MOOC hype (Baggaley, 2013; Skapinker, 2013). During this phase, the enrollments just for the platform edX exploded until a peak of 1.1 million in 2015, but also a controversial discussion was already initiated. For instance, MOOCs were seen as an instrument to simply outsource teaching tasks, having high infrastructure costs, or eliminate communication between teachers and learners (Baggaley, 2013).

However, to-date MOOCs have not lived up to their initial promise, struck by a set of different issues: One repeatedly reported problem are the consistently high if not increasing drop-out rates (reportedly only 5% of the registered users ever graduate) (Reich and Ruipérez-Valiente, 2019; Siemens, 2013b). Another major issue is the sustainability of offering MOOCs respectively platforms providing access to MOOCs. While higher education is usually a very cost-intensive endeavor in traditional on-premise universities, there are reports of websites composing “participation at zero cost” curricula by linking people to MOOCs composing an MBA-equivalent track (even though lacking accreditation) (Kaplan and Haenlein, 2016).
This, combined with the overall expectation of content to be either free or cheap, makes it a challenge to regain the substantial costs of operating MOOC platforms and providing additional courses.

### 2.3 Business Models for Platforms and MOOCs

At a very basic level, a business model can be defined as “a description of an organization and how that organization functions in achieving its goals (e.g., profitability, growth, social impact, …)” (Massa et al., 2017, p. 73). Of course, this plain definition hardly offers any entry points for detailed analyses but reflects a universal understanding of the concept “at a very general and intuitive level” (Massa et al., 2017, p.73). As usual for emerging concepts, several definitions evolved over time depending on application context but without a consensual definition (Massa et al., 2017; Zott et al., 2011). However, it is commonly accepted that the business model is important for making an endeavor sustainable and competitive. Here, especially the concept of the BMC with its nine building blocks has become very popular for investigating separate parts of a business model (Osterwalder and Pigneur, 2010; Osterwalder et al., 2005).

The literature on business models and MOOC platforms notably shows that MOOCs and platforms are mostly being analyzed separately. On the one hand, when considering MOOCs and platforms as conceptual distinct objects, this is straightforward from a conceptual and an economic point of view. Whereas the concept platform covers a wide range of different domain-agnostic application scenarios and can serve many purposes, MOOCs are a comparable narrow concept serving predefined and only educational purposes (Burd et al., 2014). On the other hand, both concepts are going into a conceptual merge as they together form inseparable entities since the electronic medium (Burd et al., 2014) for MOOC delivery is typically an online education platform. Up to now, this has not led to an investigation concentrating on the respective business models.

Considering the large impact on economic routines, it comes with no surprise that much is known about digital platform business models. One fundamental result is that no one-size-fits-all solution applies to platforms (Staykova and Damsgaard, 2015), not even for marketplaces (Täuscher and Laudien, 2018). This relates to the economic view on platforms regarding market entry (Zhu and Lansiti, 2012) and strategies to cope with competition among platforms (Rothe et al., 2018; Zhao et al., 2020).

In contrast, analyses of existing MOOC business models are comparatively scarce. Nevertheless, here, the fundamental economic specifics of MOOCs are a useful starting point to understand important requirements for business models. At first, one needs to consider that the provision of MOOCs as such leads to losses (Dellarocas and Van Alstyne, 2013). A fact that relates to the constituting openness of the courses, albeit being produced with high effort and large amount of human and technical resources. As revenue generation and charging are seen as central issues (Burd et al., 2014), literature provides approaches to overcome this problem, e.g., different revenue models (Aparicio et al., 2014), course syndication (Dellarocas and Van Alstyne, 2013), potential monetization strategies (Belleflamme and Jacqmin, 2016) or break-even points for particular strategies (Burd et al., 2014). Finally, Hoxby (2014) raised the threat that MOOCs are faced with the tragedy of the commons and, once free of charge available, only a small number of people will still pay for its consumption—similarly to online newspapers offered as freemium. Those financial threats show the importance of finding new ways to design a sustainable ground for MOOCs and to figure out sustainable business opportunities.

### 3 Research Approach

Our research is organized as an exploratory web content analysis (Herring, 2010). The purpose of content analysis is to explain real-world phenomena by deriving insights from its data (Krippendorf, 1989). Consequently, we argue that the method is a suitable way to investigate web platform content (Skalski et al., 2017). Therefore, the approach relies on five steps (Herring, 2010; McMillan, 2000): (1) formulation of a research question, (2) sample selection, (3) definition of coding categories, (4) coding and ensuring coding reliability, and (5) data analysis and interpretation.
3.1 Data Collection

In our ongoing research project, we apply the steps for data collection as follows. First, the relevance to investigate MOOC platform business models arose due to a current and apparent contradiction: On the one hand, the MOOC hype has flattened since participation decreased. On the other hand, the COVID-19 pandemic made educational institutions aware of the need for proper online teaching formats. Here, one crucial factor to support a sustainable and broad instantiation of MOOC platforms is the underlying business model, which led us to articulate our research question.

For our sample, we consider every MOOC platform to be relevant for our investigations. We searched for platforms via Google and Class Central, a widely used search engine for MOOCs. However, constraints to our data collection comprise language and accessibility. So, only platforms that are also available in English language are taken into our sample. In addition, if the platform is not publicly accessible, e.g., due to access restrictions based on affiliations or mandatory payments in advance, it is not taken into the sample (of course, this puts the "openness" into question). Up to now, we have investigated 35 platforms from September to November 2020 by using a standardized procedure. If necessary, we signed up to the platform. Otherwise, we directly started with gathering general information about the platform, for instance, regarding year of foundation, number of enrollments, or offered courses. Then, we investigated the platform and also other online sources, e.g., social media and universities’ websites, in light of our research questions. This procedure took between three to seven hours for any platform.

Third, as coding categories, we took a predefined template by adopting the classification scheme of the BMC by Osterwalder and Pigneur (2010). However, we adopted each of the nine building blocks as a separate coding category but made a differentiation between the perspectives learner and teacher where needed. When analyzing MOOC platforms, we need to consider that strategies to attract teachers or learners may be completely different. Instead of applying common practice by establishing categories out of the content under investigation, we argue that the mapping to the BMC comes along with several advantages regarding comparability and completeness.

Within step four, we organize routines to ensure the reliability of our coding. Therefore, we create a common understanding of the BMC among our group of four researchers. The initial codings are taken to create references that serve as examples for each block of the BMC. Afterwards, we will cross-validate the codings of each platform within the group and execute all steps in additional iterations until all agree on the codings.

3.2 Data Analysis

As our research goal is to identify popular MOOC platform provider business models and predominant patterns in them, the intuitive choice for coding our search results is the reuse of an existing framework to explain business models as indicated in the prior section. While there are various frameworks and tools available, the most commonly used one is the BMC by Osterwalder and Pigneur (2010) (de Reuver et al., 2013; Plenter et al., 2017). Even though often perceived as a design tool, Osterwalder et al. (2005) explicitly state the appropriateness of the BMC to serve as an analytical tool.

However, as outlined in Section 2, MOOC platforms are an instance of the so-called MSPs. While the BMC is not explicitly tailored for the design of any specific business type, the display of MSPs can have some caveats: As Osterwalder and Pigneur (2010) point out, MSP operators have at least two customer segments and different value propositions and revenue streams for each. This can be depicted with the standard BMC, with the caveat of either having to use colors to clarify the connection to a specific customer segment or risking that a distinction might not be feasible on first glance.

To circumvent both pitfalls, we propose to split several of the BMC nine building blocks to visually account for each of the different customer segments as already applied in researching other platform markets (Giessmann and Legner, 2016). First of all, we restrict ourselves to two customer segments of MOOC platforms—the learners (incl. companies booking courses for their employees) and the teachers (incl. all
kinds of individual or institutional educators). There are additional customer segments imaginable—including but not limited to advertisers—which, however, are not as fundamental and hence omittable. As suggested by Osterwalder and Pigneur (2010) the building blocks revenue stream and value proposition were split. Beyond this, the customer relationships building block was split as well. The reasoning is that both learners and teachers are substantially different customer types requiring very different (levels of) services and support. Finally, we decided to split the customer segments building block as well. This might seem like an odd choice at first; however, while teachers and learners are good aggregates, both segments can and should be distinguished further to provide meaningful analyses. Depending on whether a platform rather caters institutional learners (i.e., companies, universities, administrations, …) or private ones (i.e., students, workers, …), analysis results and derived recommendations might differ—yet not justify further splitting of the BMC (as each platform has teachers and learners; however, their specific instantiations will vastly differ hence leading to plenty of blank elements in such a BMC).

<table>
<thead>
<tr>
<th>Key Partners</th>
<th>Key Activities</th>
<th>Key Resources</th>
<th>Cost Structure</th>
<th>Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charter Members (Universities)</td>
<td>Partner Management</td>
<td>Courses of External Educators</td>
<td>Employees (ca. 250)</td>
<td>Facebook, Twitter, Instagram, Reddit</td>
</tr>
<tr>
<td>Partners (Non-Profit, NGOs, Governments, …)</td>
<td>Course Optimization</td>
<td></td>
<td>IT-Infrastructure, Royalties</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Adjusted Business Model Canvas with exemplary notes

The adjusted BMC is depicted in Fig. 1. To illustrate the intended use, we added the data collected on the edX platform. For further aggregate analyses, we use a column-based version of the depicted BMC to easily filter for or cut out specific aspects—yet each BM will ultimately be depicted and released in the format outlined in Fig. 1. As each of the platforms exhibits different naming and phrasing conventions, we are currently in the stage of semantically standardizing our labels and ensuring that they are all on the same conceptual level. Once this is completed, we will exploratively cluster the identified business models to identify existing archetypes or patterns within the existing models. These will then be subjected to a more in-depth assessment consisting of checks against the extant literature and interviews with researchers and practitioners to interpret the identified patterns and their implications.

4 Preliminary Results

4.1 MOOC Platform Overview

To date, we identified a total of 39 MOOC platforms, four of which were excluded from further investigation due to language barriers (e.g., Portuguese only) and access restrictions. In general, this set comprises a range of 35 very heterogeneous platforms including the large, well-known providers Coursera, edX, Khan Academy or Udacity but also small platforms reaching only a limited audience (cf. Tab. 1). To give a descriptive impression of our object of analysis, we start with general information about the MOOC.
platforms: 17 platforms—almost half of the sample—were founded during the hype years 2011 to 2013. Eight platforms were established before 2011 and nine in 2014 to 2017. There are also older platforms included, that were founded before the MOOC “invention”. Here, the platform’s primary purpose has obviously changed with the emergence of MOOCs.

<table>
<thead>
<tr>
<th>360Training</th>
<th>AcumenAcademy</th>
<th>Alison</th>
<th>Ayn Rand</th>
<th>DataCamp</th>
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<td>Canvas Network</td>
<td>Complexity Explorer</td>
<td>coursera</td>
<td>Cybrary</td>
<td>FutureLearn</td>
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<tr>
<td>EduOpen</td>
<td>edX</td>
<td>EMMA</td>
<td>Federica Web Learning</td>
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<tr>
<td>Gymnasium</td>
<td>iMooX</td>
<td>iUniversity</td>
<td>Kadenze</td>
<td>Khan Academy</td>
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<td>LinkedIn Learning</td>
<td>mooc.house</td>
<td>mooc.house</td>
<td>oncampus</td>
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<tr>
<td>OpenClassrooms</td>
<td>OpenCourseWorld</td>
<td>OpenLearning</td>
<td>Shaw Academy</td>
<td>Open Universities Australia</td>
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<td>The Great Courses</td>
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<td>Udacity</td>
<td>Udemy</td>
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Table 1. Overview of the analyzed MOOC platforms

Another factor of interest is the number of available courses (i.e., MOOCs) per platform. Our sample includes all sizes between 16 and 130,000—with an average of 7,730 and a standard deviation of 24,300. Approx. 91% of all courses are offered by the five largest platforms—a highly unequal distribution of market power across MOOC platform providers. Our descriptive statistics support prior findings that the MOOC platform market is an oligopoly—dominated by few global players, complemented by a number of smaller competitors.

Drawing on these preliminary findings, we determine the following propositions to guide the remainder of our ongoing research: (1) Businesses during the MOOC hype became successful. (2) The existence of MOOC platforms founded in the 20th century indicates that a business model adaption towards a MOOC business model can be successful. (3) Founding a new platform after 2013 was hardly successful in persistence on the market or rarely executed.

4.2 Selected Business Model Elements

Despite the early stage of our work, first patterns regarding the BMC building blocks already emerge. For illustration purposes we focus on key partners, revenue streams, and customer segments. As private entities compete with the incumbent national states in the educational market and since education is a very complex good (value can only be determined post-hoc, ROI complex to determine, …), we expect more fine grained clustering as part of our future work to identify additional interesting insights. The building block Key Partners shows a clear proximity to institutions of higher education, with 17 platforms listing universities (and similar institutions) in this block. Further distinctions such as disciplines, geographic location, category, or strategic partnership are yet unaccounted for. The tight bonds to academia are underlined that further key partnerships exist with individual academic staff members like professors or lecturers instead of universities as an organization. Presumably to secure funding, MOOC platforms often partner with institutions of the public sector, e.g., ministries, the European Union, public administration but also NGO’s. Although, our preliminary investigations reveal a strong orientation towards academia and/or the public sector, large private companies (global players) also serve as key partners for some platform providers.

The element Revenue Streams - Learners includes several different and even opposing monetization models. On the one hand, we observe common online revenue models like freemium, licensing or subscription. Charging for specific services is also commonplace, manifesting itself in charging for certificate issuance, course support through lecturers, or even course attendance. On the other hand, several MOOC providers do not rely on any obligatory payments by their learners—yet, some might ask for voluntary donations. From the customer perspective, those MOOCs are freely available.

The Customer Segments - Learners building block eludes the explorative analysis, requiring in-depth analysis to identify meaningful patterns. Instead of clear cut segments, primarily generic groups such as “students”, “working professionals”, “people interested in learning” or even “everyone” emerge. Domain-
oriented segments like “people with interest in UI/UX Design” or “IT students” appear less often than expected. Platforms aimed at social groups with special needs are rare, with only two mentioning “disabled people” and another one people without proper access to higher education.

Drawing on the exemplary presented insights, we can determine the following propositions that will—among others—guide the remainder of our ongoing research: (1) For MOOC platform providers it is not necessary to define a narrow customer segment. (2) The MOOC platform landscape pays little attention to disabled people or generally to inclusiveness. (3) Several MOOC platforms pretend on being open but rather charge for enrollments.

5 Discussion and Conclusion

Our ongoing research project aims to uncover MOOC platforms’ business models and determine predominant patterns in them. Given the prior experiences with inflated expectations, our investigation focuses on sustainable business models. Accordingly, we investigate the business models with a special focus on their elements that contribute to making MOOC platforms successful to survive over time and remain in the market. We applied a web content analysis to 35 MOOC platforms using an adapted BMC as our standardized coding template. Our approach’s specifics and the preliminary results of our first iteration are outlined in this research in progress paper. Our sample reaffirms the existence of a MOOC platform oligopoly. This is unsurprising considering that the MOOC market’s economics are characterized by network effects and economies of scale. As a contrast to these dominant providers, our sample also includes smaller platforms. While the close ties to higher education institutions are to be expected, common bonds to public institutions—supposedly for funding—are an alarming signal considering the goal of sustainability. The identified revenue streams are also relatively uncreative and provide a potential starting point for optimization.

Our research approach also entails limitations. The exploratory nature of the MOOC platform investigations cannot assure having a complete set of relevant platforms, although we seek to identify all of them. However, our preliminary analyses indicate that we can reach data saturation with the given sample. In addition, the outcome of the study will only draw a picture of MOOC business models at a certain point in time in contrast to a longitudinal study. To still account for the MOOC evolution, we refer to the market entrance of each platform and developments over the years in the MOOC market.

So far, the presented results are based on the collected raw data. To enable further aggregations, the whole dataset will be cross-coded by the involved researchers. Once stable, all codes will be mirrored back into the BMC shape to release them as a structured assessment of the MOOC platform- scape. Furthermore, there are various angles for further assessment: Despite the few operators dominating the MOOC platform market, they do not yet compete with traditional (higher) education offerings. This raises the question of whether massive MOOC platforms can be sustainable competing with traditional generalist offerings such as universities or whether domain-specific platforms might be more promising (as even highly specialized courses can reach large audiences online). Similar doubts and potentials pertain to the learners’ customer segments. Beyond these, we expect further potentials and ideas to emerge through serendipitous discovery.

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