New internationalization opportunities for Higher Education Institutions: A strategic framework for the cross-border provision of Massive Open Online Courses (MOOCs)

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Abstract

The objective of the present work is to develop a strategic framework for Higher Education Institutions to tap into new internationalization opportunities through the cross-border provision of Massive Open Online Courses (MOOCs). To illustrate its application, the framework is applied to the cross-border provision of a MOOC from a large, research-oriented, public university in the Caribbean. An analysis of a sample of 1,507 responses to online questionnaires, combined with data analytics from the MOOC platform provider, supports the proposition that Higher Education Institutions can use the cross-border provision of MOOCs as a means to increase their international reach. The findings also suggest that a partnership with a key MOOC platform provider can facilitate entry and positioning into international markets through insertion into relevant global networks. Higher education leaders and practitioners can use the framework developed in this study to assist in making decisions regarding the use of MOOCs as a way to increase the reach and viability of their international programs.

Keywords: higher education, internationalization, massive open online courses, MOOCs, strategic framework

Introduction

The digitally interconnected world of the XXI Century introduced a new type of educational service known as Massive Open Online Courses (MOOCs). MOOCs are higher education offerings, delivered over the Internet, free of charge (or at a low price), to an unlimited number of participants. The most prestigious academic institutions around the world now offer MOOCs to the millions of participants registered in one or more of the available MOOC platforms (Evans, Baker, & Dee, 2016). The massive adoption of MOOCs highlights the demand that exists, across national borders, for this type of educational service.

Despite the new opportunities for internationalization that MOOCs provide to Higher Education Institutions (HEIs), most of the academic literature on MOOCs concentrate on the pedagogical dimension (Al-Atabi & DeBoer, 2014; Kop, Fournier, & Mak, 2011; Liyanagunawardena, Adams, & Williams, 2013; Mackness, Waite, Roberts, & Lovegrove, 2013; Rodriguez, 2012), with fewer published research on institutional strategy and internationalization (Dyer, 2014; O'Connor, K. 2014; Robinson, K.G., 2014). To contribute to fill this gap, and to encourage the cross-pollination of the International Higher Education literature with relevant contributions from the International Marketing and International Business literature, this paper develops a strategic framework for the cross-border provision of Massive Open Online Courses (MOOCs). Higher Education Institutions can use this framework to leverage the opportunities that MOOCs provide to increase their international reach.

The present work begins with a summary of the distinctive characteristics of MOOCs and the environmental conditions that create their potential for globalization. Grounded in relevant International Marketing literature, a subsequent section explores internationalization strategies aimed to realize the globalization potential of MOOCs. The strategic framework for the cross-border provision of MOOCs is then conceptualized, based on applicable International Higher Education and International Business theory. The application of the framework is then illustrated within the context of a large, research-oriented, public university in the Caribbean. The results from the application are then presented and discussed. The conclusion considers the limitations of the study and provides directions for further research.

MOOCs Potential for Globalization

MOOCs emerged in 2008 as the result of pedagogical experimentation by Canadian educators (Bremer, 2012; Downes, 2008 a,b), and facilitated by advances in global technologies (Kedem & Puchalla, 2012). It took four years for MOOCs to cross the border into the USA (Hyman, 2012), and only one more year after that to become a global phenomenon, with hundreds of internationally recognized Higher Education Institutions (HEIs) provisioning MOOCs by 2013 (Clarke, 2013). In the words of George Siemens (2013), "Rarely has higher education as a system responded as rapidly to a trend as it has responded to open online courses" (p.5).

The rapid adoption of MOOCs is, in part, a response to their potential international value. MOOCs are hereby regarded as supplementary services which augment the core of the HEI; thereby, providing value-added and differentiation opportunities (Lovelock & Yip, 1996). The potential for globalization which lies embedded in the very nature of MOOCs and in the environmental conditions which surround them magnify the potential value opportunities for HEIs across the world.

MOOC Characteristics

Four distinctive characteristics gave rise to the term *MOOC*:

- **Massiveness**. MOOCs can accommodate an unlimited number of participants from any location in the world. The scalability of MOOCs, that is, their capacity to easily expand to larger audiences, is their most salient attribute (Clarke, 2013).
- **Openness**. MOOCs are open for the free enrollment of all interested participants, without barriers to entry, monetary or otherwise. The only prerequisites for MOOC consumption are access to the Internet and an understanding of the language in which a MOOC is provisioned. MOOCs pose no barriers to exit either, with participants determining the "extent and nature of their participation" according to their "individual needs and wishes" (McAuley, Stewart, Siemens, & Cormier, 2010, p.5).
- **Online distribution**. MOOCs utilize the Internet as their global delivery channel. The vast majority of MOOCs are provisioned via online platforms, capable of handling massive volumes of participants and data. Instructor-student interactions take place inside the platform and also outside the platform via social networking technologies.
- **Course convention**. MOOCs share in "some of the conventions of an ordinary course, such as a predefined timeline and weekly topics" as well as facilitation "by an acknowledged expert in the field of study" (McAuley et al, 2010, p. 4).

Drivers for globalization

Within the international marketing literature, the authors Lovelock & Yip (1996), based on Yip's (1989) earlier work, identify several globalization drivers specific to the service industry. The drivers represent the external environmental forces that compel an organization to globalize its services. Several of these drivers are applicable to MOOCs in Higher Education, namely:

- **Technology drivers**. Broad-band telecommunications and the digitization of voice, video and text are important technology drivers for globalization (Lovelock, 1999). The very emergence of MOOCs was facilitated to a great extent by recent advances in telecommunications and digital technologies. A credit report by Moody´s Investor Services notes that "The efficiencies offered through new

technology have the potential to transform a university's operations, academic and social programming, and pedagogical approach" (Kedem & Puchalla, 2012, p.2).

- **Competition drivers**. Foreign competitor presence and service export levels are two competition drivers for globalization (Lovelock, 1999). The most prestigious HEIs across the world have formed national and international consortia with the specific purpose of offering MOOCs, such as *edX*[i] in the USA, *FutureLearn*[ii] in the United Kingdom, and *Open2Study*[iii] in Australia. Other HEIs have entered into partnerships with third party technology providers to provision MOOCs via their robust online platforms. The most notable example is US-based *Coursera*[iv], the largest player in the global MOOC arena, with 143 partners, across 28 countries, offering 1,866 courses (as of April 2016), according to its website. Spain-based *Miríada X*[v] is another notable example, being the largest MOOC player in the European and Latin American regional markets. In 2015, a total of 550 universities offered a combined 4,200 MOOCs (Shah, 2015).
- **Market drivers**. The existence of global (electronic) channels and global participants are important market drivers for globalization (Lovelock & Yip, 1996). The Internet is a global distribution channel, which has been found to help companies globalize and implement global strategies (Yip & Dempster, 2005). Since MOOCs are delivered over the Internet, participants are geographically dispersed across the globe. Common customer needs are yet another important market driver for globalization (Lovelock & Yip, 1996). According to data collected by Class Central[vi], 35 million students signed up for at least one MOOC in 2015 (Shah, 2015). The demand for MOOCs highlights a latent need, across national borders, for accessible higher education courses from recognized institutions.
- **Cost drivers**. Economies of scale are important drivers for globalization, not just for the manufacturing firm, but also for the service firm (Lovelock & Yip, 1996). MOOCs facilitate the achievement of scale economies through high volume consumption. A single MOOC can attract thousands, tens of thousands, and even hundreds of thousands of participants (Kolowich, 2013), given that enrollment is mostly free of charge and unlimited. High volume enrollments per MOOC translate into economies of scale for HEIs; that is, the higher the volume consumption, the lower the average cost per unit (Spencer, 1974).

Although these drivers reflect the external conditions that act as triggers for globalization, they merely create the *potential* for an organization to reap the benefits of a global strategy (Yip, 1989). HEIs that wish to tap into the globalization potential of MOOCs need to develop appropriate internationalization strategies in connection with their provision of MOOCs. The following section explores relevant internationalization strategies, from which a set of propositions is consequently derived.

Internationalization Strategies and Propositions

The literature on International Business can provide direction for Higher Education Institutions (HEIs) making strategic choices in connection with their provision of MOOCs across national boundaries. These choices include the mode of supply to expand participation in international markets and the positioning into global networks.

Expansion via cross-border supply

Research on the international flow of services is often framed in terms of the four modes of supply specified by the General Agreement on Trade and Services (GATS, 1995, Art. I.2) of the World Trade Organization: cross border supply (e.g. exports), consumption abroad (e.g. consumer mobility), commercial presence (e.g. direct investment), and presence of natural persons (e.g. service provider mobility) (Riddle, 1999). The modes of supply are a function of the physical presence of the service firm in relation to that of the consumer at the time of service provision (Stern & Hoekman, 1987). The internationalization of higher education is also explained in terms of the physical presence of the HEI in relation to that of its students. HEIs can therefore choose to employ one or more of the modes of supply to expand their participation in foreign markets: cross-border supply (e.g. online learning), consumption abroad (e.g. movement of students), commercial presence (e.g. campuses abroad), and presence of natural persons (e.g. movement of academic staff) (Sahni & Shankar, 2005).

The cross-border supply of higher education, in particular, is indistinctly referred to in the literature of International Education as export higher education, offshore higher education, and transnational higher education. The terms refer to the provision of educational services across national borders *without* factor movements; that is, education in which the learners are located in a country different from the one where the HEI is based (Council of Europe/UNESCO, 2001). A lack of factor movement is possible because a *physical* presence is not required for the cross-border supply of higher education, given that higher education can be considered a knowledge-based service; that is, one targeted at the minds of participants, rather than at their physical persons or at their physical goods (Lovelock, 1983; Lovelock & Yip, 1996). It is, therefore, *mental* presence (rather than physical presence) the necessary condition for the cross-border supply of higher education.

Exports of distance and online education are the typical examples of cross-border supply in higher education, requiring neither the movement of the service provider (academic staff) nor of the consumer (student). It is the curriculum, rather, which moves electronically between the two parties. Given the low degree of risk and commitment associated with cross-border supply, vis-à-vis commercial presence, exports of online learning services have been found to be a preferred initial mode of expansion for the internationalizing HEI (Li & Roberts, 2012).

MOOCs, as a new modality of online learning, fit within the mode of cross-border supply. The cross-border supply of MOOCs can operate independently, but complementary, to any other mode of supply the HEI employs for their degree programs. Hence, the first proposition is that the cross-border supply of MOOCs can augment the reach and scope of internationalization for HEIs.

P1: The cross-border supply of MOOCs can increase the international reach of Higher Education Institutions.

Positioning via partnerships in global networks

The exporting Higher Education Institutions (HEI) needs also to consider a way to reach the target audience. In the interconnected business environment of the XXI century, successful entry into foreign markets is increasingly a function of *insidership* in relevant global networks (Coviello, 2006); that is, becoming well established in one or more key business networks (Johanson & Vahlne, 2009). One way in which the HEI can achieve insertion into global and regional MOOC networks is by establishing bilateral (or multilateral) relations with key intermediary firms. The current MOOC global landscape is dominated by a few, high-profile, intermediary firms, most of which are educational technology start-ups which provide robust online platforms for MOOC provisioning; for instance, US-based Coursera and UK-based FutureLearn (Clarke, 2013). These organizations operate in large networks of international business relationships with academic and industry partners.

HEIs can avoid the *liability of outsidership* (Johanson & Vahlne, 2009), that is, of not holding a position inside a network, by engaging in contractual arrangements or partnership agreements with one or more of the dominant MOOC platform providers. A partnership grants HEIs a position inside MOOC global networks, with instant access to the participant base of the intermediary firm. The partnership, thus, allows the HEI to provision MOOCs globally via the online platform provided by intermediary firm. The partnership facilitates the process of acquiring the experiential knowledge necessary to close the psychic distance (Johanson & Vahlne, 1977) with foreign markets, and to overcome the liability of foreignness (Hymer, 1976; Johanson & Vahlne, 1977, Zaheer, 1995) which is known to prevent foreign firms from successfully entering new markets.

The second proposition reflects the importance of insertion in relevant MOOC global networks to increase the chances of internationalization success, both in terms of entry into foreign markets, and firm positioning in global networks.

P2: A partnership with one or more key MOOC platform provider facilitates entry into international markets through insertion into relevant global networks.

The following section integrates the internationalization strategies and propositions discussed in this section into a conceptual framework for the cross-border provision of MOOCs.

Conceptual framework

The proposed strategic framework for the cross-border provisioning of MOOCs is depicted in Figure 1. The framework depicts the location and point of involvement of the main actors (i.e. MOOC provider, MOOC Platform Provider, and MOOC Participant) along the various stages of the MOOC lifecycle (i.e design, production, assembly, and delivery).

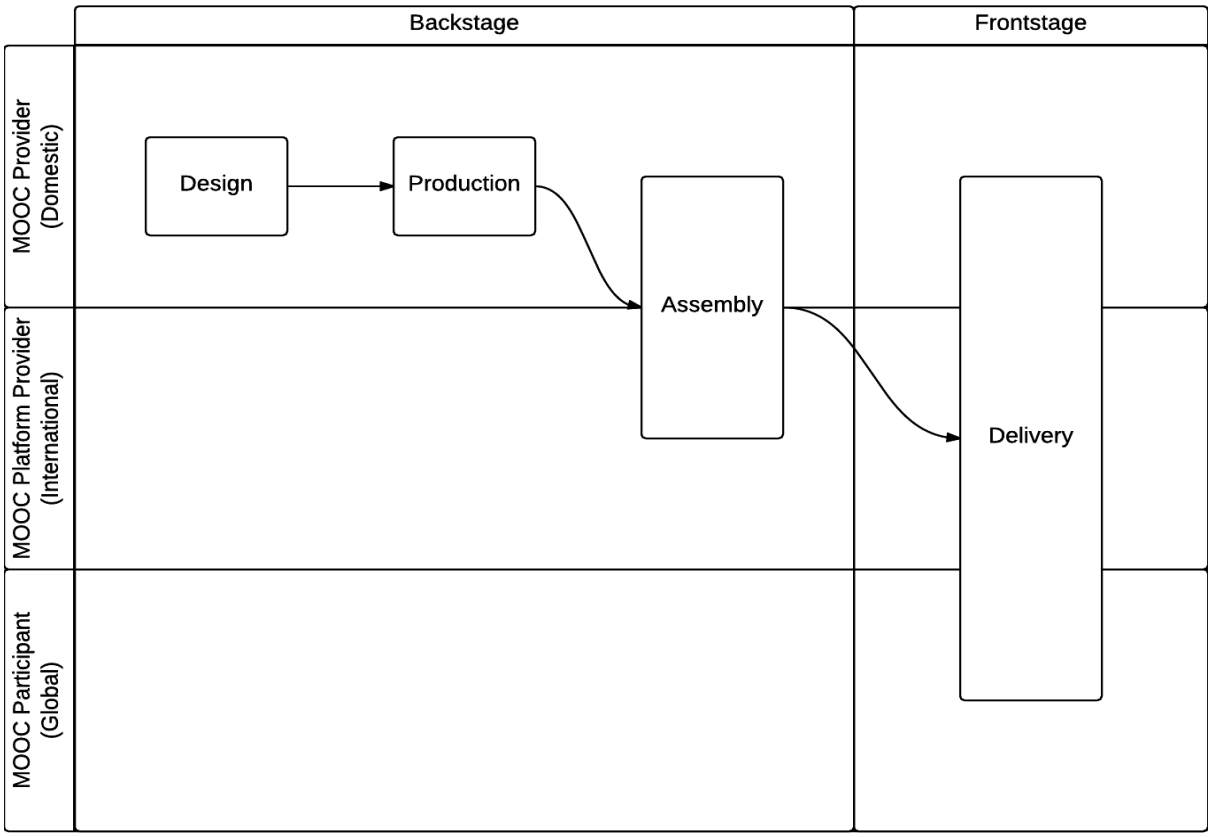


Figure 1. Strategic framework for the cross-border provisioning of MOOCs

Backstage and front stage operations

The legendary marketing scholar Theodore Levitt (1976) argued that all services have a backstage, where the manufacturing-like activities take place, and a frontstage, where the firm-client interactions take place. His approach is similar to the back office / front office conceptualization in Chase's contact theory (1978, 2010) and the back region / front region conceptualization in Grove and Fisk's (1992) service as theater theory. Bhagwati referred to this phenomenon as the separation, splintering, or disembodiment of service production from consumption (1984). In essence, the backstage operations of a service comprise all activities that happen out of the client's sight, in support of the firm's front region (Grove & Fisk, 1992). In terms of Grönroos' (2008) service logic, the backstage operations comprise all provider-level activities involved in service provision that support and facilitate service consumption. The design, production, and assembly phases in the MOOC lifecycle represent the backstage activities of the MOOC lifecycle, while the delivery of the MOOC represents the frontstage activities.

Backstage operations at the provider's home base

The internationalization framework begins when the Higher Education Institution (HEI) decides to provision MOOCs as a way to leverage their potential for internationalization. The knowledge-intensive nature of MOOC provisioning determines the location of the first two stages of the backstage operations. The HEI can leverage its possession of knowledge and resources – specific ownership advantages, according to Dunning (1980, 1988) – by centralizing the location of design and fabrication at their domestic home base (Porter, 1990). The output of the design and production activities in a MOOC lifecycle constitute the *digital core* of the MOOC, which then requires assembly in an online platform for its cross-border supply.

International partner integration during assembly

The assembly stage introduces the intermediary firm (international partner) as a value–adding distribution agent. To increase the probability of success, the partner chosen must be a dominant player in the global marketplace, own the technology necessary for connecting supply and demand, and have an established position in large global networks. The HEI enters into a bilateral partnership with an international MOOC platform provider to gain insidership (Coviello, 2006; Johanson & Vahlne, 2009) into relevant MOOC networks and leverage their technology to reach global participants. The HEI assembles the MOOC in the partner-provided, specialized, Internet-based platform. The international partner has the critical role of connecting the backstage operations of the provider with its front stage operations, and thereby, connecting supply with demand.

Front stage operations with the global consumer

The final stage in the framework is delivery, which constitutes the front stage operations where all provider-participant interactions take place. This stage introduces the global participant into the mix of relevant actors. The domestic HEI and the global participant are connected in this stage via the international partner's online platform, which handles the enrollment process required for participation in a MOOC, and provides mechanisms for the HEI to directly communicate with participants. The delivery phase starts with the participant enrollment process and lasts all throughout the length of the MOOC until its closure date; that is, the date when the MOOC contents are no longer available to participants.

The next section illustrates the application of this framework to the design, production, assembly, and delivery of a MOOC from a large, research-oriented, public university, in the Caribbean.

Case Study Illustration, Findings and Discussion

The MOOC used to illustrate the application of the proposed framework is "Diseño instruccional: una nueva mirada" (Instructional design: A new perspective) from the University of Puerto Rico. This MOOC was delivered through the Ibero-American platform Miríada X from October 30 to December 8, 2013. For a full account of the design and production of this MOOC, see Robinson (2015).

Backstage operations of the domestic provider

The strategic framework for the cross-border provision of this MOOC began with the University of Puerto Rico (the provider), a large, research-oriented, public university, and the nation's leading academic institution. The Río Piedras campus (the home base) was home to the MOOC professor, a nationally and internationally renowned expert on distance and online education. The campus was also home to the MOOC producer - the author of the present work. These two human resources possessed the specialized knowledge necessary to create and deliver the MOOC, constituting what Dunning (1980, 1988) refers to as the firm's ownership advantage.

Since the activities involved in the design phase (e.g. planning of topics, content, sequence, timeframes, assessments, presentations, evaluations, and interactions) are knowledge-intensive in nature and reliant on the provider's specialized human resources, the provider chose to keep those activities in-house, and at their home base. The output of the design phase became the blueprint for the production of all MOOC components (i.e. videos, quizzes, assignments, surveys, and forums). Since the activities in the production phase (e.g. scripting, filming, editing, captioning) are also specialized in nature, and dependent on the internal talent for successful development, the provider chose to keep production of those activities at their home base.

International partner integration during assembly

The production activities yielded the digital core of the MOOC, ready for assembly in an online platform for global distribution. Since the likelihood of successful entry into global markets is increased by partnering with dominant player in the global marketplace, with the technology necessary for connecting supply and demand, and with an established position in large global networks, the MOOC provider formed a collaborative partnership with Spain-based Miríada X (the partner). Miríada X is a joint venture between Telefonica[vii] (in the telecommunications sector), Santander[viii] (in the financial sector), and Universia[ix] (in the higher education sector). Miríada X is the leading MOOC platform provider for the Spanish-speaking world, with two million registered users, as of February 2016 (González de la Fuente, 2016). In addition to its registered user base, Miríada X also has access into its partner Universia's network. As of April 2016, Universia is considered the most important Ibero American university network, with over 1,400 partner institutions from 23 countries, representing 19 million university students and professors, according to its website. Since the University of Puerto Rico enjoys insidership within Universia's network, it was able to access Miríada X to leverage their specialized, Internet-based platform for MOOC provisioning, with the ultimate goal of reaching new international audiences.

The activities in the assembly stage consisted of uploading, embedding, and configuring the components of the MOOC's digital core in the partner-provided MOOC platform. Once assembled, the final MOOC was handed over to the international partner for technical validation. After confirming compliance with the partner's quality guidelines, the partner opened the MOOC for enrollment and promoted it through their social networking channels, formally handling the marketing activities and, thus, linking supply with demand.

Front stage operations with the global participant

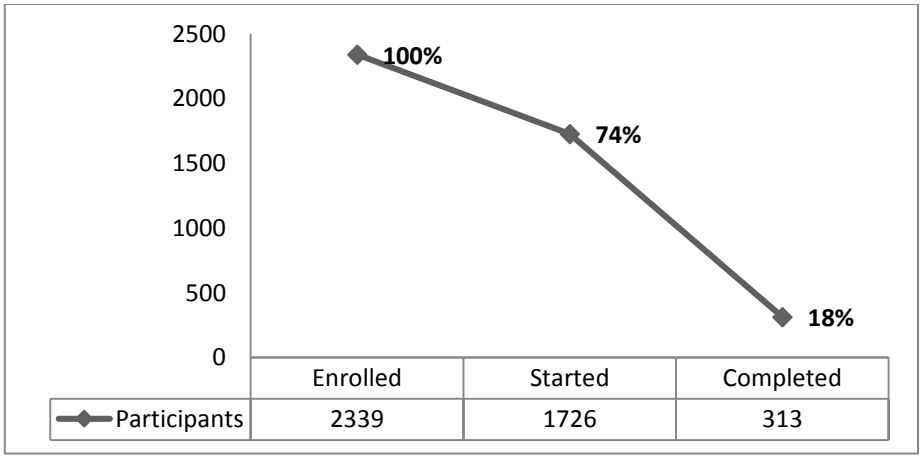
The final stage in the MOOC lifecycle was delivery, where all provider-participant interactions took place. The domestic HEI and the global participants were connected via the MiríadaX platform, which handled all participant-facing activities, including registrations, communications, and interactions with the MOOC contents, with the teaching staff, and with other enrolled participants. The MOOC opened up for enrollment on September 16, 2013 and ran from October 30, 2014 to December 8, 2013. Table 1 summarizes the key delivery dates.

Table 1. Key periods and dates

Period	Date
Registration open date	September 16, 2013
Pre-start date	October 30, 2013
Official start date	November 4, 2013
Planned close date	December 1, 2013
Extended close date	December 8, 2013

Figure 2 summarizes participation data analytics generated from the MOOC platform. A total of 2,339 persons enrolled in the MOOC. Seventy-four percent of those who enrolled actually started the course. By the MOOC's close date, 18% of those who started the MOOC (i.e. 13% of those who enrolled) completed the MOOC by achieving at least a 75% passing threshold on the required evaluation activities. The completion rate for this MOOC was considerably higher than the average 6.5% for other MOOCs at the time it was offered (Christensen et al, 2013; Jordan, 2014).

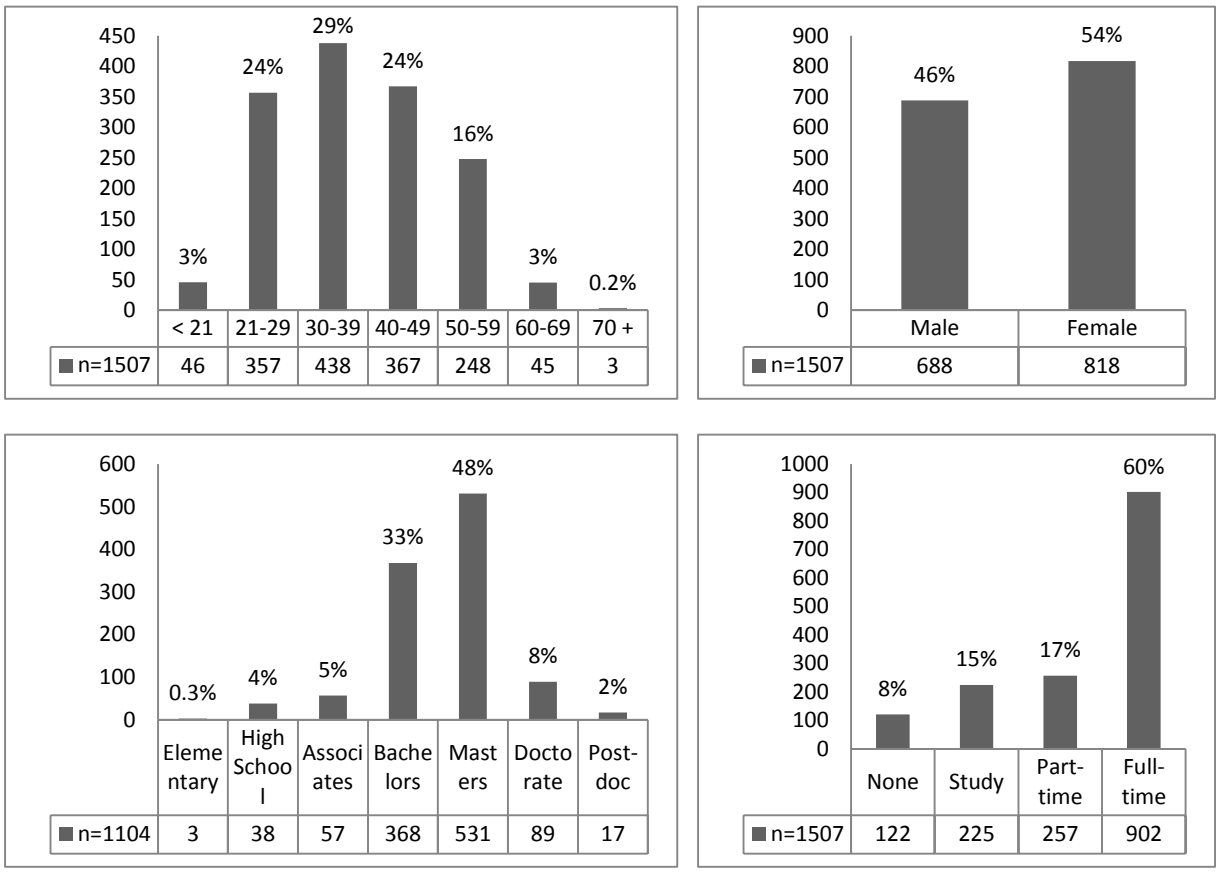
Figure 2. Enrollment and Completion Data



Participants were asked to answer an online questionnaire via the SurveyMonkey[x] online survey tool at the pre-start period and another survey at the official start date of the MOOC. These two surveys collected data about the demographic characteristics of the participants. A sample of 1,507 participants responded to the initial survey (a 91% response rate from the 1,647 participants who joined at pre-start period), while 1,104 responded to the second survey (a 79% response rate from the 1,391 participants who joined the MOOC at the official start period). These response rates are well above the typical 20-50% response range reported for web surveys, according to Schonlau, Fricker and Elliott (2002), suggesting that the sample can be assumed representative of the population.

The demographic distributions of respondents are shown in Figure 3. The respondents were 54% female, with a median age range between 30 and 39 years old, highly-educated (58% holding a graduate degree), and predominantly employed full time (60%).

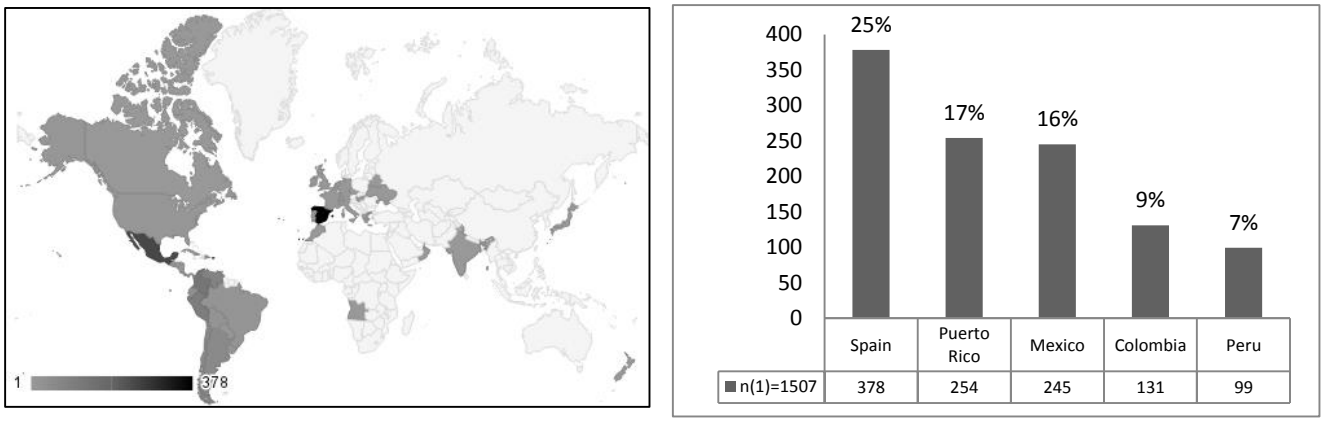
Figure 3. Distributions of demographic variables



Note: (top left) age, (top right) sex, (bottom left) educational attainment, and (bottom right) employment status.

Figure 4 shows a visualization and country distribution of the international reach for this MOOC. The 1,507 respondents participated in the MOOC from 45 countries, with 74% concentrating in 5 countries: Spain, Puerto Rico, Mexico, Colombia, and Peru.

Figure 4. Country distribution of MOOC participants.



Note: (Left) map visualization of the 45 countries from which respondents (n=1507) accessed the MOOC, and (Right) graph of the 74% participants from the top five countries.

Conclusions

The findings from the application of the proposed framework show support for the first proposition, which states that the cross-border supply of MOOCs can increase the international reach of Higher Education Institutions. If reach can be measured as the number of participants in a MOOC, the case study illustration shows that through a single MOOC offering, the University of Puerto Rico was able to attract 2,339 persons, spread across the world, who enrolled in the MOOC. The University was able to reach 1,726 participants who accessed the contents of the MOOC at one point or another during its delivery timeframe. Furthermore, the Institution was able to retain 313 students for the duration of the MOOC. This type of reach, measured in numbers, is considerably higher than possible with traditional, campus-based, single offerings.

If reach is measured in terms of international countries accessed, the MOOC from the case study illustration was able to reach at least 45 countries, with a heavy concentration in Spain (the home-base of the Platform Provider) and Puerto Rico (the home base of the MOOC Provider), as well as in Mexico, Colombia, and Peru. The international reach not only shows support for the first proposition, but also for the second proposition, which states that a partnership with a key MOOC platform provider facilitates entry into international markets through insertion in relevant global networks. The case study illustration shows how the University's insidership in Universia's network, facilitated the partnership with MiríadaX, which in turn granted the University access to Miríada X large network of global participants. Through positioning within the MiríadaX network of partner institutions who provide high-quality MOOCs to the Spanish-speaking world, the University was able to reach more participants, worldwide, than would have otherwise without that partnership.

The propositions and framework developed in this paper suggest ways in which Higher Education Institutions can tap into the potential for globalization that MOOCs provide to augment their international reach and presence in international markets. The framework works within the General Agreement of Trade in Services, with the cross-border provision of MOOCs as the proposed mode of expansion for Higher Education Institutions. The framework also builds on the network approach to firm internationalization by promoting partnerships with dominant players in the MOOC marketplace to gain insidership in relevant global networks that facilitate entry into foreign markets. The proposed framework sheds light on important issues for consideration, including location decisions for activities along the MOOC lifecycle to leverage the advantages that the different actors contribute to the process.

The application of the framework to a real life example illustrates a way in which the framework can be operationalized and provides empirical support for the proposition that the cross-border supply of MOOCs can increase the international reach of Higher Education Institutions. The single-case application of the study, nevertheless, limits the generalizability of the findings. In particular, the illustrative case targeted a Spanish-speaking audience, limiting its potential for further internationalization. Further research could explore the application of the framework to multiple MOOCs, for other language markets, and with different platform providers. The demographic profile of participants in this study reveals a highly educated and employed consumer base. This suggests that the framework could also be applied beyond Higher Education to other sectors, including corporate training, continuing education, and professional development. Further research along these lines would provide a deeper understanding of the value potential of MOOCs for the internationalization of the providing organization.

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NOTES

[i] https://www.edx.org/
[ii] https://www.futurelearn.com/
[iii] https://www.open2study.com/
[iv] https://www.coursera.org/
[v] https://www.miriadax.net/
[vi] https://www.class-central.com/
[vii] http://www.telefonica.com/
[viii] http://www.santander.com/
[ix] http://www.universia.net/
[x] https://www.surveymonkey.com/