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MOOCIFICATION?

MOOCs, Business Models and Business Schools

Agostinho José Grandão Abrunhosa

Submitted in fulfilment of the requirements of the
Degree of Doctor of Philosophy for the Adam Smith Business School of
the University of Glasgow

The Adam Smith Business School

The College of Social Sciences

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Abstract

The emergence of MOOCs (Massive Open Online Courses) and the visibility they have gained in the media and in academia have led some authors to question whether this disruptive technology would drastically change the world of education and business schools. While some business schools have started to develop MOOCs themselves, their overall effect on their business model is still not fully understood, and there is often much criticism within schools about their introduction. Divisions have emerged between advocates and outspoken critics. In this context, it seemed appropriate to seek to better understand the process, impacts and implications of the introduction of MOOCs on the business model of business schools.

With a single case design, this thesis is an empirical, exploratory and inductive study. Thirty-three semi-structured interviews with targeted MOOC-specialist faculty members, managers and experts was the primary data, with secondary data also collected during this process. Overall, two main research findings have resulted from this study. First, six drivers that lead individuals and business schools to make and support MOOCs have been identified, and second, the impact of the introduction of MOOCs on the business model of business schools is reflected in three dimensions: changes to the value proposition; changes to teaching in the form of new resources, processes and knowledge; and changes to marketing with themes related to reputation, reach and awareness.

This study was developed from the business school perspective, contributing to the business model literature by looking into the sector of executive education and management, which is evolving rapidly around the world and growing in importance in terms of its personal, institutional and social impacts. This study contributes to the literature on business models by describing how the use of MOOCs changes the business model of business schools. Specifically, their use broadens the value proposition of business schools and changes their teaching and marketing. The drivers for business schools to introduce MOOCs are to enhance their reputation, to create new marketing tools, to learn how to be prepared, to have a new way of teaching, and finally, to teach more people.

“All progress is born of inquiry.
Doubt is often better than overconfidence,
for it leads to inquiry, and inquiry leads to invention.”

Hudson Maxim

“Top quality business schools changed what they are doing now in
the classroom.

It's not content delivery but more PhD style discussions.”

(GK, 16)

“People just want to learn and that’s the most important.”

(GK, 53)

“The updated knowledge base and clarity of thinking and articulation
helped me become a better instructor in the in-class environment.”

(MS, 26)

“It's clearly disrupting the business but my sense is that MOOCs and
their providers are going to seep into the low-end of the business
education market.”

(MS, 34)

“We're only seeing the tip of the iceberg in terms of what we can,
and what we may be able to do with digital technologies in
traditional classroom settings.”

(MML, 31)

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Author's declaration

“I declare that, except where explicit reference is made to the contribution of others, this thesis is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.”

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Chapter 1 Introduction

1.1 Research motivations

There are multiple motivations for this study. In first place the rising academic and managerial interest in business models (Cozzolino, Verona and Rothaermel, 2018; Ritter and Lettl, 2018; Amit and Zott, 2020), MOOCs (Baggaley, 2013; Impey and Formanek, 2021; Yousef and Sumner, 2021) and in business schools (Alajoutsijärvi, Juusola and Siltaoja, 2015; Kosnikov *et al.*, 2021). These subject areas are relevant, up to date and need further research. The introduction and growth of MOOCs stimulated a lot of attention in academia, business and even entrepreneurship (Kuchler, 2017; Headrick and Mcelravy, 2022). Some academics said MOOCs would disrupt higher education (Kalman, 2014; O'Connor, 2014; Al-Imarah and Shields, 2019), others claimed it was a fad and would do more harm than good (Billsberry, 2013). In addition to all the attention, many doubts arose (Sangrà, González-sanmamed and Anderson, 2014). The second motive is the emergence of business model innovation as a strategic option to improve organizational performing and generate value for clients, the target company, and its network (Ricciardi, Zardini and Rossignoli, 2016; Caputo *et al.*, 2021). Lastly, business schools lack knowledge of how company models evolve (Thomas and Cornuel, 2014; Bradshaw, 2017; Halkias *et al.*, 2020), so this study's objective was to further the knowledge of how business model change occur in business schools with MOOCs introduction and to better understand their business model.

1.1.1 Importance of business schools

The business model concept can be applied to business schools themselves (Spender, 2017; Peters, Smith and Thomas, 2018; Trkman, 2019). By applying the business model concept to business schools themselves and using categories like value proposition, key resources and processes, for example, Johnson's (2010, p.24) framework can be used to uncover competition drivers across these institutions. MOOCs are one initiative that is at the forefront of such drivers and that business schools use to compete (Burd, Smith and Reisman, 2014;

Christensen, Alcorn and Emanuel, 2014). However, to the best of our knowledge, the literature has not addressed the issue of the impact of MOOCs on the business model of business schools. This gap in the literature motivates this dissertation.

Executive and management education is a rapidly evolving global industry with growing importance and significant and widespread personal, institutional and social impacts (Antunes and Thomas, 2007; Onzoño and Carmona, 2007; Starkey and Tempest, 2008; Thomas Clarke, 2013; Kosnikov *et al.*, 2021). A growing business on a global scale (Starkey, Hatchuel and Tempest, 2004), management education is the result of economic changes since industrialisation and the emergence of large organisations with a need for active cooperation of physical and financial processes (Engwall, 2007).

Thomas & Cornuel (2014) said that business schools have been a significant example of success in Higher Education Institutions (HEI) over the past four decades and are growing in size and scope. As a result, the number of students and programmes has expanded dramatically and management education has become an essential element of academic institutions across the globe (Datar, Garvin and Cullen, 2010; Varela, Burke and Michel, 2013).

The mission of a business school has many dimensions (Davies and Glaister, 1997; Cornuel, 2005; Starkey and Tempest, 2008; Maines and Naughton, 2010; Wilson and McKiernan, 2011; Rousseau, 2012; Starkey and Thomas, 2022), including training managers and producing new knowledge that is relevant to organisations (Simon, 1967). Academic value in business schools is generated via research and distribution, personal value is developed through instruction (Cornuel, Eric; Hommel, 2012), and social value is created through the development of educated and skilled graduates and their interactions with their society (Hay, 2008).

Business schools teach and help students develop creative thinking (Brian Atwater, Kannan and Stephens, 2008) and traditionally offer functional subjects such as strategy, operations, finance, people, and marketing (Pfeffer and Fong, 2002; Seethamraju, 2012). In addition to mastering these different areas, students have to integrate this knowledge in complex real-life circumstances (Bloch and Spataro, 2014). Merely receiving this knowledge is not enough and it is necessary to develop

critical thinking skills (Brian Atwater, Kannan and Stephens, 2008; Bloch and Spataro, 2014). Indeed, many business schools have long recognised the importance of developing their students' critical thinking, with some schools referring to critical thinking as an outcome of their activities and using it as a selling point (Bloch and Spataro, 2014). Employers often value this output achieved in business schools because it is advantageous in a business environment (Thomas, Thomas and Wilson, 2013).

Business schools today compete aggressively for the brightest students (Crainer and Dearlove, 1999; Kodeih and Greenwood, 2014) in order to establish recruitment bases for corporations (Kodeih and Greenwood, 2014; Tho, 2017) and to diversify their external sources of financing (AACSB, 2011, p.213; Guillotin and Mangematin, 2015). This form of rivalry already overlaps with that seen in conventional marketplaces, where brand positioning and competition are commonplace (Keinan, Avery and Paharia, 2013). As a result, university management systems increasingly resemble those of contemporary businesses in seeking to ensure long-term financial viability. Managing schools' connections and reputation is critical in this context (Rindova, Williamson and Petkova, 2010; Dameron and Durand, 2013; Gupta and Bharadwaj, 2013).

Business schools should also be learning organisations in order to avoid becoming obsolete in a rapidly changing world that routinely challenges societal and organisational norms (Ashton, 1988; Lorange, 1996). By operating with defined systems, paths, schedules and destinations, business schools aim to educate other companies and people on how to manage and thrive in cyberspace, for example (Richard Osborne and Scott Cowen, 1995:38).

Being a “learning organisation” means conducting business research in accordance with a university's objectives and methods (Starkey, Ken and Tempest, 2009; Khan, 2015). While this surely involves improving teaching and learning quality via better focus, technology, innovation and diversity (Gosper and Ifenthaler, 2014), it also implies an improvement in lecturing via academic action and learning more about teaching (Revans, 1982; Brekelmans, Slegers and Fraser, 2000; Varela, Burke and Michel, 2013). Being a “learning organisation” also means adaptability.

With the arrival of Covid-19, business schools had to adapt their business model in response to the crisis (Laasch, Ryazanova and Wright, 2022). The resultant transformation in universities, in the business world, in students and the new financial constraints in a context of increased necessities for IT infrastructure led to the transformation of business schools (Krishnamurthy, 2020a). Some schools invested in distance learning solutions that would allow them to maintain their activity and fulfil their mission of training professionals (Adam Stefanile, 2020; Krishnamurthy, 2020a; El Said, 2021). Virtual classrooms were developed with technologies such as screens, computers, cameras and other equipment to facilitate interaction between students and faculty, with this investment often accompanied by investment in software and technicians to install, maintain and operate such spaces (Amankwah-Amoah *et al.*, 2021; El Said, 2021). As confinement was reduced and students returned to campus, such infrastructure has been used in new online training and as a complement for in-person classes. An AMBA report says that the majority of business schools are now using virtual classrooms (AMBA & BGA, 2021).

The impact of covid and successive transformations also led faculty and researchers to rethink their activities and their integration in a cohesive, meaningful and relevant academic identity to society (Ryazanova, Wright and Laasch, 2021). Another significant impact of covid in business schools is the changing landscape of business that will affect the opportunities available and economic sectors in distinct ways (Krishnamurthy, 2020b).

1.1.2 Business model of business schools

Theoretically, this research builds on the notion of business model. The business model concept is somewhat vague (Porter, 2001) and used in various ways, making it necessary to define the concept to further study the business model of business schools. The definition followed in this study has some consensus as “a system of interdependent organizational activities centred on a focal firm through which it creates and captures customer value” (Zott and Amit, 2010a) and which is “made up of components, linkages between components and dynamics” (Afuah and Tucci, 2001). To organise the investigation of the impacts of MOOCs on the particular business model of business schools, the model of Mark W. Johnson (2010, p.24)

was followed. This model has four core elements: customer value proposition, key activities key resources and profit formula. From now on 'profit' will be replaced with 'surplus' because it is more appropriated the context of education/business schools where many of them are not-for profit organizations. The major difference between the two is that profit is usually the term used for the excess incomes made by a for-profit corporation, whereas surplus is the term given to the excess income made by a not-for-profit organization. Based on the framework, more than 35 years of experience with business schools, following the literature review and the collected data, the next paragraphs provides a high-level description of some elements of the business school business model and mission (Hay, 2008; Rayment and Smith, 2013).

Most business schools conduct their operations to increase income, improve their reputation (Vidaver-Cohen, 2007), and so on, with their company strategy usually based on two pillars: finance and reputation (Dameron and Durand, 2017b, pag. 7). Funds are obtained from several sources, including tuition fees, subsidies, government funds, donations and supported research (Onzoño and Carmona, 2007; Wilson and Thomas, 2012; Kimberly and Bouchikhi, 2016). Reputation is a key issue in business schools because it drives important dimensions such as prospects and candidates, faculty, rankings, quality certifications and revenues (Martensson, Bild and Nilsson, 2008; Rindova, Williamson and Petkova, 2010; Anjam, 2013; Siebert and Martin, 2013; Mariconda, Zamparini and Lurati, 2021).

As the main research topic here is to understand how the business school business model changes with the advent of MOOCs, it is crucial to also understand the core elements of the framework used (Johnson, 2010, p.24), namely, the customer value proposition, the surplus formula, key resources and key activities and the relationships between all in business schools as detailed bellow. A synthesized version of that framework can also be found in the article Reinventing your business model (Johnson, Christensen and Kagerman, 2008).

Customer value proposition in business models of business schools

From now on only the expression “value proposition” will be used because the word customer is not be the best one to identify the students and participants in business schools.

The value proposition of business schools is quite clear: prepare participants to be better business professionals and help companies perform better (Trkman, 2019; De Reuver, Bouwman and Haaker, 2013; Thomas, Thomas and Wilson, 2013; Hay, 2008). This customer value proposition is realised in diverse ways and for different beneficiaries. Business schools offer executive programmes, MBAs, customised programs and several other training activities (Twomey and Feuerbach Twomey, 1998; Gosling and Mintzberg, 2004). As stated by Narendran, Bharathan and Jajoo (2014), the aim is to transform those who attend them through three dimensions: knowing (through the transmission of knowledge and experiences), doing (through experimenting and developing skills) and being (endowing participants with values and criteria that allow them to be better professionals).

Historically, this value proposition is delivered mainly in the face-to-face format, in which participants study together in groups on a course that ranges in duration from a few days to a few years (Starkey, Ken and Tempest, 2009; Khan, 2015; Parker, 2018). It is often companies that look for business schools in the context of their people development (Thomas and Peters, 2012; Tho, 2017). Individuals also seek out business schools to learn, make new friends, expand their network and develop their skills (Bin Jiang and Murphy, 2007; Khan, 2015). Some business schools are better positioned in the professional market, seeking to attract employed candidates, while others position themselves more towards offering younger candidates the tools to take full advantage of training in the first professional stages after graduation (Narendran, Bharathan and Jajoo, 2014). Schools within a university context usually have access to a natural pool of university candidates, while standalone business schools have to look for candidates in companies or directly through social media or personal references.

Key activities in business models of business schools

Based on Johnson's (2010, p.24) framework admissions, teaching, research, support processes, career management, and governance can be identified as key activities of the business school business model.

Admissions are usually the gateway of participants to the business school (Gordon and Howell, 1959; Anjam, 2013) and this step is related to several other activities: brand and reputation building, positioning, building training offer, marketing and sales. The primary function of admissions is to make the business school offer reach and attract potential students, be they institutions, individuals, decision-makers, prescribers or potential participants (Saaty, France and Valentine, 1991). The school's reputation plays a central role here (O'Brien *et al.*, 2010). The reputation of alumni, the quality certifications obtained, the employability of students, the quality of teaching staff, the level and awards obtained by a school's research all play a role in building reputation (Baden-Fuller, Ravazzolo and Schweizer, 2000).

Teaching is a central activity in the business model of business schools (Thomas and Thomas, 2012; Martensson, Bild and Nilsson, 2008; Gupta and Bharadwaj, 2013; Siebert and Martin, 2013). Participants go to business schools mainly to learn, and teaching plays a central role in that (Martensson, Bild and Nilsson, 2008). Faculty play a central role in constructive learning once they create the learning environment for obtaining the learning outcomes required (Biggs, 2003). Faculty seek to make use of the most appropriate methodologies for the teaching objectives, such as case studies, conferences, simulations, role play and workshops (Martensson, Bild and Nilsson, 2008; DeLacey and Leonard, 2002). Teaching is a mix of knowledge transfer and skills development.

Depending on the positioning and resources of the business school, faculty can come from academic or business background, with most schools trying to strike a balance between academic and practical dimensions (Starkey and Tempest, 2008). In some schools, practitioners are invited to share their knowledge and experience as invited fellows (Xie and Steiner, 2013). The subjects taught are the traditional ones in business schools: strategy, marketing and commercial, finance,

operations and people management. Many business schools have recently tried to include current themes to serve new needs and position themselves as innovative, often in areas such as technology, design thinking and artificial intelligence (Glen, Suciu and Baughn, 2014; Vegard Kolbjørnsrud, Richard Amico and Robert J. Thomas, 2016). Knowledge exchange is also a relevant activity for business schools that can be materialized in faculty exchange, research exchange, practices exchange, trends sharing and documentation exchange (Harrington and Kearney, 2011). Often, this approach benefits both the institutions, the teachers, and the students involved.

Research is central in some business schools (Thomas and Wilson, 2009; O'Brien *et al.*, 2010) and is used by some schools to differentiate themselves from the competition insofar as it allows them to focus teaching on current issues. Research adds prestige to faculty and schools alike and is recognised through awards, publishing in specialised and popular journals and magazine, appearances in the media and events (Gupta and Bharadwaj, 2013; Vazquez Sampere, 2013; Chia, 2014; Chia and Holt, 2014; Thomas and Wilson, 2009; Thomas, Lee and Wilson, 2014; O'Brien *et al.*, 2010). Playing an important role in certifications and rankings (Kaplan, 2014), research can be basic or applied and can be done in-house or outsourced (Agrawal, Khanna and Singhal, 2020). Research can be expressed in peer-reviewed articles, academic degrees, case studies, opinion articles, questionnaires and data analysis. Indeed, some argue that research should be the primary function of business schools, as this is the only way to differentiate and sustain themselves in the future (Huff and Huff, 2001). Some authors argue that deep, rigorous and relevant research is required to make knowledge available to students and ensure skill development (Vazquez Sampere, 2013). Teaching exclusively from the perspective of knowledge transfer (the knowing component of Narendran, Bharathan and Jajoo (2014)) is something in which faculty can be less important, with such transmission possible through many channels, such as books, videos or MOOCs.

Support processes in business schools are highly varied (Fleck, 2012; AACSB, 2011, p.192; David, David and David, 2011), ranging from direct support of students and faculty, services, reproduction of teaching material, procurement, invoicing, accounting, maintenance, library, cleaning, human resources, catering and

communication (AACSB, 2011, p.296; Fleck, 2012). These services are essential to provide adequate conditions for the functioning of business schools and to provide the best conditions for teaching and study. These support services are also essential for suppliers and in establishing partnerships to supply goods and services (Dyllick, 2015). Human resources management is essential for key activities in business schools, with people simultaneously representing the principal resource and greatest cost (Khan, 2015), that can easily approach 75% of institutional expenditures (Thomas and Peters, 2012).

Career management is of growing importance in business schools (McGrath, 2007; AACSB, 2011, p.160) and can be important for current and aspiring professionals (Pfeffer and Fong, 2002). Career management can involve individual coaching oriented to personal development and in-demand skills, promoting candidates to potential employers, and through events or networking activities organised for this purpose (Gersick, Bartunek and Dutton, 2000). Business schools are increasingly looking to place their Alumni in prominent organisations and positions as this helps their reputation and attracts new candidates (Anjam, 2013). Alumni in prominent and decision-making positions are essential prescribers who can help in the development of the school (Pfeffer and Fong, 2004; Hawawini, 2005).

Governance plays a central role (Hawawini, 2005; Antunes and Thomas, 2007; Siebert and Martin, 2013) in defining the mission and strategy of business schools and in establishing strategic objectives, the relationship between the different management bodies (such as functional vs academic areas), the management of decisions and external institutional relationships (AACSB, 2011, p.71; Guillotin and Mangematin, 2015). The mission is a fundamental theme of business schools which determines its essence, what it does, how it does it, and for whom (Dulek, 1993; Simons, 2013; Starkey and Tempest, 2008). Strategic objectives establish an intended vision and the dimensions by which to evaluate a school's performance. They guide and help decision making. Management schools are power centres where tensions often arise due to different perspectives, interests, experiences and functions (Ghoshal, 2005; Engwall, 2007). While these tensions are sometimes healthy, at other times they create divisions and divergences that impact on an institution's performance and image (Lorange, 2013; Guillotin and Mangematin, 2015). The relationship between functional management bodies, operations,

marketing, finance and academic management is not always easy to manage as visions and interests do not always coincide. Established governance should seek to create reporting and problem-solving mechanisms that benefit the school as a whole (Noorda, 2011).

Participants in MBA, executive and PhD programmes and other programmes are normally given alumni status by a business school, with support structures commonly offered to alumni (Lorange, 2012; Terwiesch and Ulrich, 2014). These structures develop activities and services that have a networking and training component. The relationship with alumni is crucial for an institution (Hawawini, 2005) as it is alumni which often recommend, prescribe and decide on the participation of new students in the school (Khanna, Jacob and Chopra, 2019). They are also a source of sponsorships to the school and scholarships that allow access to training for certain people with less monetary means (Thomas, Lee and Wilson, 2014). Alumni also play an essential role in advising on new topics or on upcoming opportunities for the business school. Alumni are often an expression of lifelong learning (Thomas and Wilson, 2009), seeking to update knowledge, broaden networking and interact with their peers (Gupta and Bharadwaj, 2013), and with it schools also seeking to offer those opportunities. Such activities also constitute an excellent way for schools to stay close to their Alumni and keep the school at their top of mind, which can be very important in terms of business, reputation and life-long relations (Hay, 2008).

Key resources in business models of business schools

Key resources are normally faculty, support people, marketing and admissions staff, partnerships, facilities and equipment. Faculty are one of the most critical resources in business schools (Onzoño and Carmona, 2007; Spender, 2014) as they are who lead classes, transmit knowledge, research, interact, develop and assess students. Some faculty have a more academic nature, with PhDs for example, while others are managers who come from the world of organisations and share their experiences with participants (Vazquez Sampere, 2013; Xie and Steiner, 2013). There is great competition for the best faculty and their central role is widely recognised (Lorange, 2012). Faculty are frequently critical elements in the school management, conducting research, publishing and often playing the role of

tutors. The faculty often has a group of other support staff working in their orbit, including research assistants, secretaries and other people who provide technical support, facilitate their work and help them focus on core tasks (Thomas and Peters, 2012).

Support staff play a variety of roles in different areas of the school (Martensson, Bild and Nilsson, 2008; Terwiesch and Ulrich, 2014). For example, secretarial functions and administrative support can be included to faculty and various school bodies (Anderson and Wijk, 2010). There are also technological and communication technical support staff and maintenance teams for buildings and equipment (Lichy, Khvatova and Pon, 2014). Administrative and financial teams handle all aspects of invoicing, accounting, control and payments (Martensson, Bild and Nilsson, 2008). These staff members also ensure the school has the financial resources necessary to support its current activities and investment. Given the financial pressure on schools, such staff now play an important role and are closely linked to operational teams and Alumni.

Marketing and admissions teams play essential roles in promoting the school, building its reputation, publicising its offer, and attracting and admitting candidates (Curtis *et al.*, 2014). These teams also generate and deal with leads for potential participants and perform tasks related to creating marketing and communication materials such as brochures, emails, websites and presentations that frequently are done in outsourcing (Lorange, 2012). These teams promote various activities aimed at attracting potential leads to the school and some strictly commercial activities (Thomas and Peters, 2012) such as open houses and other events. These activities are also networking opportunities to create relationships for future business. Marketing teams manage a school's presence on social media and manage the brand and associated values and principles (Aslam, 2014). One of the main objectives of these teams is to reach as many potential students as possible and get them interested in the school's offer and services (Curtis *et al.*, 2014). Once they arouse interest, they need to help prospective students complete their application and admission.

Partnerships play critical roles in business schools (Starkey, Hatchuel and Tempest, 2004; Antunes and Thomas, 2007; Martensson, Bild and Nilsson, 2008; Curtis *et al.*, 2014), including academic partnerships for the exchange of faculty members, teaching materials and experiences, and business school networks (Cornuel and Eric, 2007; Thorpe and Rawlinson, 2014). Other partnerships aim at the transaction of goods and services under specific conditions, like access to scientific research and documentation from vendors. Still others are of a commercial nature and involve training people through customised plans and tailored content. Quality accreditations such as the EFMD, AMBA or AACSB are also relevant partnerships for business schools, with these accreditations helping establish a schools' reputation and attract the best candidates (Siebert and Martin, 2013; Kodeih and Greenwood, 2014; Guillotin and Mangematin, 2015; Khan, 2015). Other partnerships seek to develop very concrete shared activities, interests or projects, such as promoting ecology, research, ethics or best practices (Lambert, 2022). Sometimes they involve the attribution of prizes that distinguish people or organisations for their achievements.

Facilities and equipment are also vital to various dimensions of schools (Martensson, Bild and Nilsson, 2008; AACSB, 2011, p.177), for the comfort and functionality they ensure and for the image of a school they showcase. Today it is common to see significant investments in modern, functional campuses that help promote a school's image (Thomas and Wilson, 2009). The visible dimension helps to convey an image of an institution's modernity and solidity. Besides this image dimension, it is also imperative that facilities and equipment are suitable for those who work at the school in different capacities (Anderson and Wijk, 2010).

Surplus formula in business models of business schools

The surplus formula by which business schools obtain financial resources can vary significantly (Thomas and Peters, 2012; Terwiesch and Ulrich, 2014; Cornuel and Eric, 2007). Business schools need financial resources to deliver their value proposition and the origin of these funds can be very diverse, though the primary sources are usually tuition fees, donations and sponsorships (Thomas and Peters, 2012). Costs for schools can include salaries, consumption, services, facilities, finance and royalties, where salaries and facility costs tend to have a significant

weight. Business schools often have high fixed costs (salaries and facilities) and low variable costs as each additional candidate or course has a low marginal cost (Terwiesch and Ulrich, 2014). After reaching the break-even of activity, the additional contribution margin of each participant is significant. This implies great competition for candidates and the importance of building solid and lasting relationships with the primary sources of candidates (Thomas, Thomas and Wilson, 2013). The modularity of training also has significant advantages in terms of costs because of scale (Martensson, Bild and Nilsson, 2008) and marginal costs.

Key relationships between elements in business models of business schools

As stated by Johnson's (2010, p.24) framework, the different elements of a business model have to be aligned and reinforce each other. For example, a school's value proposition needs to suit its faculty, facilities and technology. The capacity of processes must be sufficient to provide the service levels required by employees and clients. The number and level of faculty must be appropriate for the number of activities to be developed and the areas of study being offered. Finally, the cost structure must also be in line with expected revenues.

Elements are interconnected through "business rules, behavioural norms and success metrics" (Johnson, 2010, p.24), with such interconnections substantially determining the degree of impact of changes, how they are implemented and who is impacted. Any change has to consider the specific circumstances of every school, with staff and other stakeholders sometimes proving resistant. In the specific case of this study, it was common to see resistance (Curtis *et al.*, 2014), tension and other difficulties regarding new tasks that do not appear in existing job descriptions and pressure to do more with the same resources.

The previous business model description is generic. The intention was not to reflect in detail all activities carried out in business schools, and not all these elements apply to all business schools. It is impossible to cover all business schools in all their idiosyncrasies and activities with this description. The intention rather was to provide a broad framework that identifies the areas on which MOOCs can have an impact.

1.1.3 MOOCs (Massive Open Online Courses) as a threat to the business model of business schools

Once explained the business model of business school and the idiosyncrasies of the way they operate it is relevant to study if MOOCs can be a threat to that operating model (Useem, 2014). Some authors argue that MOOCs may prove a serious disruptor of higher education (Kalman, 2014; O'Connor, 2014; Al-Imarah and Shields, 2019) and eliminate many business schools (Terwiesch and Ulrich, 2014). The disruption of whole industries including hotels, travel, and retail (Dameron and Durand, 2017b; Massa, Tucci and Afuah, 2017; Johnson, 2018), made it appear pertinent to delve deeper into this issue in the management education field (Kimberly and Bouchikhi, 2016). Some authors say that MOOCs are a strategic challenge for business schools (Guillotin and Mangematin, 2015) and that is only the tip of the iceberg (Dameron and Durand, 2017b:16). Richard Lyons, Haas business school dean at UC Berkeley, said that according to predictions fifty percent of US business schools will close in the next five to ten years owing to online courses (Patrick Clark, 2014). This disruption potential or not will be developed in the literature review.

While MOOCs are not well understood in the management literature, their tremendous and sudden growth in number has aroused widespread interest (Headrick and Mcelravy, 2022), including the declaration of "The Year of the MOOC" on the cover of the November 2012 edition of The New York Times (Pappano, 2012). Some have predicted that their growth, openness and free access would disrupt education and change the landscape of business schools (Daniel and Uvalić-Trumbić, 2014; Radford *et al.*, 2014), while others are critical about their implementation (Bass, 2014). MOOCs are a counterintuitive phenomenon in business schools because business schools are generally set up to generate revenue and MOOCs are free. Currently, MOOCs are built on a "freemium" model in which access is supplied for free and extra services are offered for a fee (Porter, 2015). Leading to articles such as that which appeared in the Financial Times in 2014 entitled "MOOCs may create a global trail of failed business schools". In this context it is normal to ask "Why do institutions offer MOOCs?" (F M Hollands and Tirthali, 2014). This research will seek to shed light on this question regarding business schools.

MOOCs bring together several critical aspects of our times (Thomas Clarke, 2013; Sabana and Hine, 2015). Learning is increasingly essential in an ever-changing world and knowledge is power (Khurana, 2007). Everyone want to learn from the best, and some of the best faculty have made MOOCs that anyone can access (Chtena, 2015). Universities and business schools are offering an increasing number of MOOCs with an awareness that people want to learn at their own pace, where they want and in the way that best suits them (Adamopoulos, 2013; Headrick and Mcelravy, 2022). There is a widespread desire for instant gratification (Kruh and Freedman, 2018) and technology is increasingly at the centre of our lives, work, leisure, travel and learning. Information and knowledge want to be free and there is the notion that learning must be a universal right (Spring, 2000). We live in an increasingly global world and desire to meet people from other geographies.

MOOCs, which are open, accessible and online, seem to be a paradox in business schools, which tend to have minimal access, high costs and physical campuses (Engwall, 2007; Thomas and Peters, 2012). This dichotomy and the question of whether MOOCs and business schools stand in contradiction or in a mutual reinforcement of logic make it an attractive topic of investigation. That paradox gave the context for a book chapter that we wrote about the role of materiality in institutional logics (Morgan-Thomas, Abrunhosa and Canales, 2019). Despite the profound implications, little is known about the implications of MOOCs.

1.2 Research gaps

In this research context and after the literature review to be provided in Chapter 2, several questions began to emerge in relation to potential streams of research and contributions to knowledge.

Despite the potentially disruptive impact of MOOCs on business schools and business schools' importance for individuals, companies and society, the topic has received limited attention (Caputo *et al.*, 2021). To date, to the best of our knowledge, the literature search has failed to identify a single study that deals with the question of the impact of MOOCs on the business model of business schools from the actors' perspective. Indeed, business models and the business

model of business schools are themselves areas that require further study as detailed in the literature review.

Studies that analysed the motivations of universities to start creating and offering MOOCs (Liyanagunawardena *et al.*, 2013; F M Hollands and Tirthali, 2014; Godwin-Jones, 2014) found factors such as strategic growth (Marshall, 2013), marketing (Dellarocas and Van Alstyne, 2013), strategic collaboration (MOOCs@Edinburgh, 2013), evolution (Yuan and Powell, 2013), response to learners (Castells, 2000) and learner analytics (Breslow *et al.*, 2013). Although these studies are helpful in the broader context of universities, it seemed important to understand in more depth the reasons that led business schools, which have their own specific organisational characteristics, to create MOOCs, insofar as MOOCs represent an operational logic that is quite different from their traditional way of functioning. Specifically, the aim was to know which particular drivers led business schools and individuals to take this path. After reviewing the literature, such as it is, it became evident that this topic had not yet been studied in a deeply, structured and qualitative way.

While the factors driving the introduction of MOOCs seemed relevant, how individuals saw this change in terms of their professional tasks and roles also aroused research interest, offering, as far as is known, an original avenue of research. As the business model concept is closely linked to organisational structure, processes, resources and activities, the perspective of the concrete actors operating within the business model seems to be a particularly promising avenue for further study.

Finally, it became clear that it was essential to study whether and how the introduction of MOOCs by business schools changed their business model as this investigation would allow a better understanding of the mechanisms and processes of this impact and its dimensions and future consequences. It also presented an opportunity to research more about the business model of business schools in broad terms. Indeed, while there are studies that cover these topics, they tend to lack a deeper understanding of the concept. Based on the analysis carried out, there seems to be a research gap.

This thesis will contribute to partially filling these research gaps after revising the literature, devising the research questions, creating the research design, collecting data, analysing it, explaining the findings, contrasting these with the literature and answering the research questions. Later on, limitations and future research paths will also be covered.

1.3 Research questions

Considering the above, the current study aims to explore the implications of MOOCs on business schools. Specifically, its aim is to examine the impact of MOOCs on the business model of business schools. The thesis addresses the following research questions:

- (1) What drives the adoption of MOOCs by business schools?
- (2) How do individuals perceive their changing roles in the production and delivery of MOOCs?
- (3) To what extent do MOOCs affect the business model of the business schools?

To answer the questions, it was compiled a large and varied data set that comprised 33 interviews with professors, experts, managers, program directors from various business schools and universities across the globe, see Table 3-1 Summary of interviews, totalling 419 written pages, Table 3-2 Overview of interviews (individuals), Table 3-4 Secondary data collected about or received from individuals, Table 3-5 Secondary data collected about or from schools/universities and Table 3-6 Summary of secondary data, summarises the secondary data collected. The research was rooted in a plethora of evidence by drawing on valuable lessons from interviews and secondary data. This provided enough knowledge to detect and make comparisons and contrasts. In the analytical procedure of Gioia (Gioia, Corley and Hamilton, 2012), constant systematic assessments were utilised within and between interviews, literature, and other data. The use of systematic comparisons of big data sets decreased interpretative bias and increased data validity. A theoretical sensibility was developed by gathering evidence in various settings, resulting in a theory that is more likely to be relevant to a larger world than a limited one (Charmaz, 2006). In this research, the goal of verification is not to “discover the truth” in the

positivist sense or to collect “proof” via follow-up studies (Corbin and Strauss, 2008), but to evaluate trustworthiness throughout the investigation. The purpose of continuous data comparison was not to triangulate data to verify concepts that reflected a “reality distinct from our beliefs”, rather comparing interviews and data from other settings, the risk of interpretative bias was decreased and results were made more robust (Charmaz, 2006; Hall, Griffiths and McKenna, 2013; Urquhart, 2013).

1.4 Research objectives

The primary objective of this research is to understand in detail whether and how the introduction of MOOCs changes the business model of business schools.

After the appearance of the first MOOCs, some of the world’s most prestigious business schools also became interested in developing them (Ahrache *et al.*, 2013; Burd, Smith and Reisman, 2014; Elmar Schultz, 2014). In the early years, several platforms like Coursera and FutureLearn secured significant funding and aggressively engaged potential vendors to create MOOCs to place on their platforms, helping them reach as many learners as possible in order to expand their offer and reach (Kuchler, 2017). Some authors stated at this time that MOOCs would change and disrupt the higher education sector, presenting MOOCs as the Napster of the tertiary education sector threatening the future of universities as we know them (Schoemaker, 2008; Barber *et al.*, 2013). As a recent, relevant, growing phenomenon and potentially disruptive it seemed essential to study how the introduction of this new business school offer would affect the business model of business schools and what implications this could have for their future organisational sustainability. This knowledge will also be helpful to managers and regulators when seeking to better deal with these impacts.

Another essential objective of this study is to investigate the possible threat of MOOCs to faculty responsibilities and careers (Vardi, 2012), including the potential for MOOCs to reduce their number of face-to-face classes and impacting their professional development, pay and value to the school (Murray, 2014). MOOCs can also impact the type and way faculty do their work. Teaching a face-to-face class and recording a video to be made available as part of a MOOC are two very

different things (Kolowich, 2013). In the context of this investigation, it seemed relevant to understand how faculty themselves saw these developments, whether as a threat or as an opportunity to organise their time more efficiently, allowing them to dedicate more hours to research and to the production of knowledge.

It also seemed important to understand the reasons and objectives that led schools and individuals to develop MOOCs, creating a valuable learning opportunity in the distinct nuances of these drivers and their relative strengths and priorities. It was also interesting to see to what extent the objectives of institutions and individuals are in alignment or in conflict. In any case, it is essential to understand the external and internal drivers of change insofar as these have very different natures, impacts and characteristics.

Business schools are an important sector of society since as they help develop those who manage (Pierson, 1959; Kilcourse, 1995; Vazquez Sampere, 2013). Another objective of this study is therefore to gain a deeper understanding of the business model of business schools and its elements and interconnections. This research also studies change in the business model of business schools in the face of technological and market changes that demand innovations in the teaching model.

The business model concept must be studied further. As will be seen throughout this thesis, it is a vital area of knowledge which can help managers, organisations, people and regulators make better decisions.

If studying the impact of technology on business models is an important subject, the appearance of Covid-19 made the topic even more relevant (Cristina, Mihaela, 2020). While schools and universities had to close and went into confinement, life could not stop, and technology was once again crucial (Laasch, Ryazanova and Wright, 2022). Many schools moved their activity online, with Zoom classes, webinars, new online training programmes and investment in studios for online classes, among other examples. This forced change in teaching had its advantages and disadvantages (Bergiel, Bergiel and Bergiel, 2021). During this period there was an increased interest in MOOCs as a learning alternative to in-person classes (Shah, 2021).

In summary, the objectives of this research include understanding the process by which the introduction of MOOCs changes the business model of business schools; understanding the reasons and objectives that led schools and individuals to develop MOOCs; and gaining a deeper understanding of the business model of business schools, its elements and interconnections, and further study of the business model concept as a whole.

1.5 Research approach

In terms of methodology, this study adopts a qualitative approach based on semi-structured interviews. Due to its exploratory nature, the research questions and objectives outlined before the semi-structured interviews with individuals seem to be the appropriate data collection mechanism. In addition to this method of primary data collection, secondary information will also be used.

While it is possible to anticipate that MOOCs may have an impact on business schools, the drivers, elements, dimensions, processes, nuances, contours and implications of this impact are not well known. It is important to understand how this process began (Billsberry, 2013; Kimberly and Bouchikhi, 2016; Whitaker, New and Ireland, 2016); what led business schools (Egloffstein, Ebner and Ifenthaler, 2019), faculty and other experts to create and develop MOOCs; and how this process impacts elements of the business model. Some authors say that the teaching method in business schools has not changed for many years and that an adaptation of teaching to technology and new generations is urgently needed (Mintzberg, 2005b; Martensson, Bild and Nilsson, 2008; Thomas, Lee and Wilson, 2014). Business schools play an essential role as centres of power and in training business leaders. It thus seemed important to study this phenomenon to better understand the context in which MOOCs introduction arises and how it impacts business schools.

The Eisenhardt (1989) case study research technique and Gioia methodology were chosen (see details in Chapter 3) to fulfil the research objectives as these methods best supported the objectives of understanding the perspective of those involved in MOOCs. Interviewing the individuals closest to the phenomenon, whether as faculty, specialists or managers, seemed critical insofar as it gave participants a

voice (Gioia, Corley and Hamilton, 2012). Following that process it was possible to understand the various stages of the development of MOOCs in business schools, from why the MOOCs were created in the first place to how they developed and what results were achieved. Several dimensions and the impact on the main stakeholders are examined.

The aim was to gain a global perspective of MOOCs in business schools, interviewing people from different geographical areas and minimising local or regional idiosyncrasies. In this way, it was possible to obtain a more comprehensive understanding that can be of use for business schools in different locations.

1.6 Potential contributions of the research

To business models

A builder perspective on business model innovation. The existing literature on business model innovation needs to give further consideration to the perspective of actors, the people who drive change (Foss and Saebi, 2017). From the many definitions of business models studied, for an overview of those definitions see Appendix 1, only Timmers (1998) refers explicitly to actors and their roles. By offering their perspective, the study extends the business models literature.

Disruptive innovation and business model

The case of business model changes where contrasting logic merge between the introduction of a technology and the traditional business model. The thesis explores tensions and shows means of coping and resolving them.

To business schools

Addresses ways in which business schools has been criticised, like being too much economical oriented, not using technology to enhance teaching, to closed and elitist. Shows ways forward.

To MOOCs

Casting MOOCs as a business model enables the detailed exploration and integration of multiple perspectives.

1.7 Thesis structure

The structure of this thesis began to emerge on a bench in the university during a conversation with one of my supervisors, initially just as large blocks that later became the chapters. These chapters, in turn, were divided into sections that summarised the content of the chapters.

The chapters of the thesis are organised as follows:

- Chapter 1 contains the thesis introduction, the research motivation, research gaps and questions, objectives, research approach and potential contributions of the investigation.
- Chapter 2 contains a literature review that addresses the three main blocks that make up this thesis: Business Models, MOOCs and Business Schools. The Chapter ends with the research gaps and research questions.
- Chapter 3 presents the research design and methods, including the reasons to choose grounded theory for this study. It also sets out the philosophical assumptions and their implications for the research. Also provided are the study approach, the quality of the research design, data collecting, data analysis and reduction, as well as research limitations and conclusions.
- Chapter 4 builds on the literature review developed in Chapter 2 and on the methodological axes of Chapter 3 to discuss the main research findings considering the research questions and the research approach.
- Chapter 5 presents a discussion of the answers to the research questions and the study's findings considering the literature review in Chapter 2.
- Chapter 6 concludes the thesis by stating the contribution to knowledge, the level of achievement of the research aims, and summarising the main theoretical and practical implications that emerged in the development and evaluation phases of this work. The chapter also summarises limitations and possible future research avenues.

Chapter 2 Literature review

2.1 Introduction

The aim of this chapter is to establish the evidential and theoretical basis for the thesis. To this end, this chapter reviews the pertinent literature on MOOCs from the perspective of business schools and business models. The first section reviews business model research, outlining current issues and gaps. The second addresses the current knowledge of MOOCs, what they are and their status and use from the viewpoint of business schools and business models. The third section reviews the literature that examines the distinct nature of business schools from the perspective of their evolution and primary elements. Finally, the chapter closes with an overview of these three streams identifying gaps in the literature and defining the research questions.

2.2 Literature review methodology

To develop a research protocol (Alvesson and Kärreman, 2011; Corbin and Strauss, 2015; Xiao and Watson, 2019) a three-step subject area process was followed (Machi and McEvoy, 2016). These steps covered the three fundamental related areas of this study: business models, MOOCs and business schools. In the beginning, a sequential logic of these areas was used as detailed below (Knopf, 2006). As the research progressed, the themes crossed and the investigation of various elements began to blend, whether by points of contact, mutual influence or overlap (Efron and David, 2019).

The plan was to start with the broadest topic, business models, for which the research contribution could be more significant, and then to analyse what had changed, in this case the emergence of MOOCs, and finally, to study a specific sector, business education, of which the business model would be impacted by the introduction of this innovative technology. Business models and MOOCs could be seen as the lens through which to study the business model of business schools and how they changed with the arrival of MOOCs.

2.2.1 Sequence and results from first step - business models

The literature search started in the University of Glasgow online databases, specifically in EBSCO, EMERALD, JSTOR and ScienceDirect for articles and references with the keywords “Business Model”, “Business Models”, “Information and Communications Technology (ICT)”, “technology”, “disruption” and some variances and combinations of these in the title or abstract. Many results appeared. The centrality of the subject for the research in question, the journal impact and the number of citations were the criteria to select the most relevant sources to read and classify in terms of relevance and topics covered. That initial search was complemented with the use of Google Scholar with the same keywords, which uncovered other related documents and PDFs not always available in the other databases. This search also helped identify authors and investigation streams that contained relevant inputs for the investigation. Using backward citations, it was possible to find other papers that might not appear in keyword searches but which were relevant for the study.

The initial list of references included the following journals: Long Range Planning, Strategic Management Journal, MIS Quarterly, Academy of Management Executive, Academy of Management Perspectives and the Journal of Business Research. Other practitioner-oriented publications were added during the search. The initial search unveiled around 400 articles on business models and on relevant aspects of information and communications technology. The current list of most relevant documents on this topic is 665.

2.2.2 Sequence and results of the second step - MOOCs

In phase two, using the same search tools and criteria from previous step, the search focused on MOOCs. The keywords used were MOOC and massive open online courses. 258 results emerged from this search, and the primary documents were analysed using the relevance criterion. As a result, the principal authors, sources and documents began to be identified and classified. The list of articles used on this topic is 190.

2.2.3 Sequence and results of the third step - business schools

The focus was next placed on business schools searching for the keywords “business schools”, “executive education”, “management education” and related terms in the same databases cited in step one and in Google Scholar. From the initial search, 148 articles were selected as the most relevant. The current list of most relevant documents on this topic is 244.

2.3 Business Models

The business model concept has been studied intensely in recent years by academics and practitioners but needs stronger conceptual roots to improve research progress (Morris, Schindehutte and Allen, 2005; Zott, Amit and Massa, 2011; Belussi, Orsi and Savarese, 2019; Amit and Zott, 2020). Technology has a critical role in business models, organizational innovation, profit, and competitiveness in today's global and digitized environment (Chesbrough and Rosenbloom, 2002; Björkdahl, 2009; Khanagha, Volberda and Oshri, 2014).

In times of social and economic change and crisis globally, the study of business models and technology is an important topic because business models have a significant impact on a firm's abilities to create, deliver and capture value (Amit and Zott, 2001, 2020). Chesbrough (2010) states: “Technology by itself has no single objective value. The economic value of a technology remains latent until it is commercialized in some way via a business model.”

Recent years have witnessed the emergence of entirely disruptive business models that, in a short period, have altered whole sectors worldwide (Johnson, 2018; Bashir, Naqshbandi and Farooq, 2020). Uber changed the taxi industry, Amazon revolutionised e-commerce, Airbnb upended hospitality, and Google, synonymous with search engines, is now the world's largest advertiser (Johnson, 2018; Teece, 2018; Caputo *et al.*, 2021). Technology helped, but it was the business models themselves which made all the difference. The case of Xerox and the introduction of credit sales in the 1970s is paradigmatic of the importance of the business model in taking full advantage of technology (Chesbrough and Rosenbloom, 2002).

While academic research on business models has been generally rather limited to date, it has become increasingly important in business and strategic management literature (Tidd & Bessant, 2011). Despite this recent boom in the literature on business models (Zott, Amit and Massa, 2011), strategic management researchers disagree on the definition of a business model. According to Teece (2010): “The concept of business model lacks theoretical grounding in economics and business studies.”

Related with business model it is relevant to know how they changed, evolved and adapted (Amit and Zott, 2020). The business world is full of organisations that failed to adapt to change (Lang, 2020) and others adapting and evolving (Kagermann, Osterle and Jordan, 2010). Changes in context, technologies and markets are transformational forces and some organisations manage not only to adapt but to take advantage of these forces. The business model idea is gaining popularity, particularly in the strategy field (Rasmussen, 2007; Zott, Amit and Massa, 2011; Lanzolla and Markides, 2021; Bigelow and Barney, 2021) and in entrepreneurship literature (Morris, Schindehutte and Allen, 2005; Zott and Amit, 2007; Onetti *et al.*, 2012). Many practitioners understand how it affects a company's competitiveness, particularly in the tumultuous context of business globalisation today (Markides and Charitou, 2004; Richardson, 2008; Teece, 2010), its importance for the success of a technology's commercialisation (Chesbrough and Rosenbloom, 2002; Baden-Fuller and Haefliger, 2013), and how it explains firm performance (Casadesus-Masanell and Ricart, 2010) and firm growth (Massa and Tucci, 2013). Indeed, Casadesus-Masanell and Ricart (2010) state that “every organisation has a business model”.

Business models can provide a competitive edge (MacSweeney, 2006; Johnson, 2010; Baden-Fuller and Haefliger, 2013). The Economist Intelligence Unit surveyed more than 4,000 top executives and found that they valued creative business models above new products and services for the creation of distinctive advantages (Economist Intelligence, 2010). This competitive advantage can manifest itself in a variety of ways, including better serving customer needs; ensuring access and supply of the best services or products from suppliers; or articulating the diverse components of the business model in a way that others are unable to (Mitchell and Coles, 2003).

Business models are essential for start-ups and established organisations (Zott and Amit, 2007; Spector and Santos, 2009; Casadesus-Masanell and Ricart, 2010). In start-ups, it is normal for entrepreneurs to look for the business model that best suits their goals from the initial stages (Costa and Levie, 2012). The essential parts of the business model, namely how it develops, delivers and appropriates the value produced, must be consolidated from the concept or project stage (Baden-Fuller and Mangematin, 2013). It is normal to undertake a trial and error process in the initial phases until the most suitable model emerges (Zott and Amit, 2007). In the case of established companies, a solid understanding of the business model is vital and managers must remain attentive to the need to reinvent the model to better adapt to changing circumstances, customer needs and other stakeholders to ensure future sustainability (Linder and Cantrell, 2000; Christensen, Bartman and Van Bever, 2016). Academics are eager to learn more about the influence of business models on company success (Zott and Amit, 2010b), while practitioners and entrepreneurs want to know how to improve their business model to improve their results (Zott and Amit, 2007; Nenonen and Storbacka, 2010).

Since the year 2000, there has been an increase in interest in researching the notion of a business model, and several definitions of the term have emerged, including those which place an emphasis on the profit formula or on the business value proposition (Foss and Saebi, 2017). The definition of business model remains ambiguous and the term is used with a variety of meanings (Baden-Fuller and Morgan, 2010; Johnson, 2010; Lanzolla and Markides, 2021) and definitions (Nenonen and Storbacka, 2010; Onetti *et al.*, 2012; Abdelkafi, Makhotin and Posselt, 2013). A vague concept as ill-defined by practitioners, journalists and others their usability is compromised because it will mean distinctive things to different people. This stands in contrast to other concepts that appear regularly and consistently in academia literature, such as value creation, value distribution and value capture (Chesbrough, 2007; Ahokangas and Myllykoski, 2013; Foss and Saebi, 2017). For an overview of definitions see Appendix 1 and from those definitions the following table was created about the components included:

Table 2-1 Synthesis of business model components included in each definition from Appendix 1

N.		Architecture	Actors	Value creation	Value distribution	Value capture	Profit formula	Sustainability	Value network
1	(Timmers, 1998)	x	x	x		x	x		
2	(Mahadevan, 2000)			x	x		x		x
3	(Afuah and Tucci, 2001)	x		x	x		x	x	
4	(Amit and Zott, 2001)	x		x					
5	(Weill and Vitale, 2002)	x		x			x		x
6	(Chesbrough and R. R. S. Rosenbloom, 2002)	x		x	x		x		x
7	(Magretta, 2002)	x		x			x		x
8	(Dubosson-Torbay, Osterwalder and Pigneur, 2002)	x		x	x		x	x	x
9	(Osterwalder and Pigneur, 2004)	x		x	x		x	x	x
10	(Morris, Schindehutte and Allen, 2005)	x		x	x		x	x	
11	(Shafer, Smith and Linder, 2005)	x		x	x	x			x
12	(Chesbrough <i>et al.</i> , 2006)	x		x		x	x		
13	(Johnson, Christensen and Kagerman, 2008)	x		x	x	x	x		
14	(Baden-Fuller <i>et al.</i> , 2008)	x		x					x
15	(Baden-Fuller and Morgan, 2010)	x		x	x	x			
16	(Casadesus-Masanell and Ricart, 2010)								
17	(Teece, 2010)	x		x		x	x		
18	(Teece, 2010)			x			x		
19	(Zott and Amit 2010)	x		x	x				x
20	(Demil and Lecocq, 2010)	x						x	
21	(Yunus, Moingeon and Lehmann-Ortega, 2010)	x		x	x	x			
22	(Osterwalder and Pigneur, 2010)	x		x	x	x			
23	(George and Bock, 2011)	x		x	x	x			
24	(Amit and Zott, 2012)	x		x					x
25	(Onetti <i>et al.</i> , 2012)	x							x
26	(Zott and Amit, 2013)	x		x		x			
27	(Fielt, 2013)	x		x	x	x	x		
28	(Arend, 2013)	x							
		25	1	24	14	11	14	5	11

This table provides an overview of the business model concept according to several authors and allows us to draw some conclusions. The first is the high frequency with which the architecture of the business model appears from the perspective of an interconnected system of elements or resources. The second is the notion of creating value for the various stakeholders, whether the focal firm or the value network. Meanwhile, while sustainability is rarely explicitly mentioned, this appears to be changing. Finally, it is noteworthy that only one definition addresses the issue of business model actors and is the first on the list.

2.3.1 Relevance of the business model concept to business schools

In this first stage, it was possible to identify the main sources of knowledge in this area and the most relevant authors (Osterwalder, Pigneur and Tucci, 2005; Chesbrough, 2007; Demil, Benoît & Lecocq, Demil and Lecocq, 2010; Johnson, 2010; Massa, Zott and Amit, 2010). The relevance of business models for organisations, academia and society became clear (Magretta, 2002; Shafer, Smith and Linder, 2005), while the relationship of the business model concept with the creation and delivery of value from technological advancements was critical (Chesbrough and Rosenbloom, 2002). Investigation uncovered the main definitions and development of the business model concept over time, and the most widely accepted elements of the concept (Hedman and Kalling, 2003; Baden-Fuller and Morgan, 2010; Zott and Amit, 2013). Some relevant trends and prevalent frameworks were identified, namely the business model canvas (Osterwalder and Pigneur, 2010) and the cyclical process (Lindgren and Taran, 2011). Business model innovation and change is a prominent topic currently undergoing significant growth (Demil and Lecocq, 2010; Zott and Amit, 2010b; Saebi, Lien and Foss, 2017; Wirtz and Daiser, 2018). At this stage, an attempt was made to identify references that included both business models and business schools, few results were found, indicating the potential of a research gap.

The relevance of the business model concept to business schools can be aggregated in two dimensions, one linked to its core activities of research and teaching, and the other linked to its organisation and operation.

Regarding the first dimension, organisations exploit the business model concept as part of their strategic formulation process, with business models “playing a central role in progressive management thinking” (Baden-Fuller and Morgan, 2010). According to academics, experimentation with the business model may assist managers in determining how changes in choices would impact the organization's performance. Magretta (2002) suggests that business models are a “tool for experimenting with change”. Organisations are at risk if they have not checked the assumptions which make up their “core logic” (Shafer, Smith and Linder, 2005). This requires that assumptions are tested and some form of sensitivity analysis is performed to examine a narrower set of strategic choices. The authors suggest that executives typically divide strategic decision in sub-components. Yet organisation must not underestimate the “...dynamic nature of the value network” over time. “Myopia can lead to the use of wrong assumption - with consequential impact on the organisations performance” (Shafer, Smith and Linder, 2005). Johnson *et al.*, (2008) supported the aspect, who cite market dynamics as a critical consideration in any business model definition.

Regarding the second dimension, business schools must also carefully consider their business model (Noorda, 2011; Thomas and Peters, 2012; Spender, 2014; Trkman, 2019). This exercise challenges them to think about the diverse aspects of their business model and how to improve them. It is vital to understand the forces that drive change, the obstacles that stand in the way of change, and the elements that help it happen. With this exercise, business schools are better prepared to fulfil their mission, aligning it with the needs of stakeholders (Dameron and Durand, 2013).

While business schools are accustomed to academically reviewing their offer through rankings and regular external audits (Dameron and Durand, 2013; Thorpe and Rawlinson, 2014), a business model review goes much further and requires a more comprehensive, complex, and time-consuming investigation. Schools need to develop a SWOT matrix and listen to the various stakeholders, their ambitions, and concerns in this process (Starkey and Tempest, 2008). It is also necessary to understand the market and technological trends and to investigate how to implement them internally. Finally, it is necessary to define and communicate

objectives and to monitor their implementation (Ranjan, 2011; Kodeih and Greenwood, 2014).

The need for change is growing. Like many other organisations, business schools are faced with considerable changes in their environment, whether in terms of market, technology, or funding (David, David and David, 2011; Elbeck, 2018; Parker, 2018). These transformations force schools to look inwards and outwards in a different way to ensure their sustainability and the continuation of their mission (Dameron and Durand, 2017b, 2017a).

Change in business schools is difficult (Pfeffer and Fong, 2002). Schools are usually stable, as they have commonly functioned for years with the same operating structure (Rousseau, 2012; Tagg, 2012). As a result, it is not always easy to demonstrate the need to change, and not everyone sees change as imperative (Kimberly and Bouchikhi, 2016). Here, the school management has a critical role to play in leading the process.

2.3.2 History and trends of the business model concept

While the term “business model” was first used in papers written by Bellman *et al.* (1957) and by Gardner M . Jones (1960), the term did not become common until the 1990, at the same time as the 90s Internet boom, which led to the rise of the NASDAQ index for technology stocks (Osterwalder, Pigneur and Tucci, 2005).

The notion of the business model flourished in the context of e-business (Timmers, 1998; Petrovic, Kittl and Teksten, 2001; Chesbrough and R. Rosenbloom, 2002) and has been used widely since (Afuah and Tucci, 2001; Yip, 2004; Osterwalder, Pigneur and Tucci, 2005; Shafer, Smith and Linder, 2005; Richardson, 2008). According to Osterwalder *et al.*, (2005), the academic literature has described five stages of the business model concept: identify and categorise business models, business model components, model business/model parts, and usage of the business model idea.

Several authors in the early 2000s further developed the concept of business models. Peter Drucker (2008) stated that “a good business model” can answer the following questions: “Who is the customer” and “what does the customer value?” and “What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?” the underlying idea is that a business model is how a company makes money by addressing two primary issues: how it finds and gives value to consumers, and how it generates profit from that value (Casadesus-Masanell and Ricart, 2010).

The business model concept has gained popularity in management studies in recent years (Spieth, Schneckenberg and Ricart, 2014; Lanzolla and Markides, 2021), with several analyses of the business model literature stressing its use in strategy (Lanzolla and Markides, 2021), e-commerce (Mahadevan, 2000), technology research (Zott *et al.*, 2011), its implementation in a variety of theoretical frameworks (George and Bock, 2011) and the history of the term itself (Wirtz *et al.*, 2015). Definitional convergence can also be found in such studies, with several contributions to the literature now describing a business model as the structure or design of a company's value generation, delivery, and capture processes (Teece, 2010; Fjeldstad and Snow, 2018).

More recently, several themes have gained prominence in the literature on business models. The sustainability of the business model from a broad perspective, including the economic, social or environmental aspects, stood out the most (Evans *et al.*, 2017; Geissdoerfer, Vladimirova and Evans, 2018) and which relates to other topics mentioned below. There has been a growing interest in circular economy models (Pieroni, McAloone and Pigosso, 2019; Geissdoerfer *et al.*, 2020). Business models related to Industry 4.0 and digitalization have also assumed relevance in the literature (Man and Strandhagen, 2017; Ibarra, Ganzarain and Igartua, 2018; Rachinger *et al.*, 2019). The area of knowledge related to business models and their evolution shows excellent dynamics and seeks to address current and relevant issues, although there are still many challenges.

2.3.3 Defining the business model

The analysis of literature uncovers multiple competing definitions of a “business model.” According to Zott and Amit, (2010), “A business model can be viewed as a template of how a firm conduct business, how it delivers value to stakeholders (e.g., the focal firms, customers, partners), and how it links factor and product markets”. Following Shafer *et al.*, (2005), a business strategy has also been defined as a plan, while a business model is the set of activities to conduct that plan. According to Baden-Fuller and Morgan (2010), business models serve as recipes, and this same idea is shared by Casadesus-Masanell and Ricart (2010), who describe a business model as “a reflection of the firms realized strategy”. According to Casadesus-Masanell and Ricart (2010), the term “strategy” refers to a firm's selection of a business model to obtain a competitive advantage. “A business model describes the rationale of how an organization creates, delivers, and captures value” according to Osterwalder and Pigneur (2010:14). According to Magretta (2002), business models are stories that explain how businesses work. A new business model can be used to create a new product or strategy for improving goods or services that already exist.

According to Richardson (2008), the fundamental concept of a business model is that it specifies how a corporation delivers goods and services to clients and how it generates money. Onetti *et al.*, (2012) demonstrate that businesses may implement the same strategy in several ways based on their business models. As a result, business models are crucial, as they may be used to differentiate from and compete with competitors. While Teece (2010) considers business models as a critical factor of success, he emphasises that they must be more than a reasonable way of doing business; they must also satisfy client demands. According to Ahokangas and Myllykoski (2013) only when put into practice within the environment in which it was conceived can the idea of a business model become completely comprehensive.

In their analysis, Zott et el. (2010) noted that various academics use the phrase “business model” to describe quite different things. They separated them into three categories: e-business, strategy and innovation, and technology. Scholars

studying e-business have sought to comprehend the e-business model; strategic researchers examined it as an activity system; while technology management and innovation scholars examined it from a cost/revenue architectural standpoint. Onetti *et al.*, (2012) have recognised two primary streams of business models in the literature. Early e-business streams arose in the mid-90s when Internet businesses began to concentrate on the e-business environment, while subsequent streams are referred to as general streams. These latter streams are a broader set of business tools that are not only for high-tech companies. According to Zott *et al.* (2010), looking at a business model from distinct angles provides a helpful perspective for imagining universally agreed-upon issues.

Zott *et al.* (2010) discovered some commonalities in how various academics conceptually define business models, with numerous scholars seeming to agree that they are a unique and distinct unit of analysis that differs from traditional analysis, that a business model is a complete and systematic concept describing what firms are and how they work, and that organisational activities are critical to business models. Another commonality in business model research is that studies have focused on value generation rather than value capture, which was emphasised in previous studies.

Shafer *et al.*, (2005) collected various components from business model literature and generated a graphic that highlights the most widespread, using the graphic as a starting point for developing their company plan and dividing the components of a business model into four categories: strategic decisions, value creation, value network, and value capture. A well-designed business model may also be used by an organization to make hypotheses about cause-and-effect linkages and the underlying principles of strategic decisions. To remain in business and succeed in the marketplace, businesses must produce value, capture a portion of that value, and do it distinctively. Value creation and capture do not coincide. The role that the company chooses to perform must be included in the business model (Shafer *et al.*, 2005).

Many definitions describe what a business model does: it may depict (Amit and Zott, 2001) or represent something (Morris, Schindehutte and Allen, 2005; Zott, Amit and Massa, 2011; Jang *et al.*, 2020), or account for something (Pateli and Giaglis, 2005a), while yet a third category of definitions describes what a business model consists of (Hedman and Kalling, 2003; Johnson, Christensen and Kagerman, 2008; McGrath, 2010). According to Shaffer *et al.*, (2005), this tremendous definitional variation may be attributable to their development from so many distinct viewpoints. Onetti *et al.* (2012) compared 48 business model definitions from various authors and found that a more formal and conceived business model description is required.

According to Onetti *et al.* (2012), in the 1990s, the first strand of writing focused on e-business firms was followed by a second strand that included other industries. Finally, they focused their investigation on 70 definitions published between 1996 and 2009, the bulk of which used the “building block” strategy (Linder & Cantrell, 2000; Mahadevan, 2000; Richardson, 2008; Shafer *et al.*, 2005). Gassmann *et al.*, (2016) did an exhaustive investigation identifying fifty theories that can be considered relevant to business models, including dynamic capabilities, evolutionism, resource-based view ambidexterity, contingency theory, and agency theory. For a list of business model definitions see Appendix 1.

Some ideas frequently emerge in the business model literature, with Zott *et al.*, (2011) stating that there are themes that frequently arise among academics in this area: being a new unit of analysis; providing a holistic view; the central role of activities, and how value is created. Many researchers have used business models to address or explain specific occurrences, according to Zott *et al.*, (2011) the following are three of the most common: the role of e-business and IT in the workplace; strategic challenges such as value generation, competitive advantage, and company performance, and technology or innovation governance. Most efforts to describe business models give a holistic viewpoint that enables management to make an integrated picture of their company's operations, rather than limiting their bounds through firm-internal aspects or external environmental issues (Schneider and Spieth, 2013).

Business models have also been used as a new analytical unit that combines numerous theoretical approaches on value generation. The unit of analysis spans traditional units like focal firms or networks (Zott, Amit and Massa, 2011). Some regard this as near to the focal firm (Zott and Amit, 2002; Casadesus-Masanell & Ricart 2010; Hurt 2008), others consider it to be quite near to the network (Zott and Amit, 2009), and others consider it a mix (Amit & Zott, 2001; Massa & Tucci 2013).

This study defines the business model as “a system of interdependent organizational activities centred on a focal firm through which it creates and captures customer value” (Zott and Amit, 2010a) and which is “made up of components, linkages between components and dynamics” (Afuah and Tucci, 2001). This definition has advantages as it combines systemic representation with a focus on revenue creation and capture (Geissdoerfer, Vladimirova and Evans, 2018). It also shows the importance of interdependence of organisational activities, widening the concept beyond for-profit businesses (Rubin, 2013; Afuah, 2014). It also establishes the centrality of activities to sustained value creation (Achtenhagen, Melin and Naldi, 2013), while the notion of a focal business emphasises the importance of a network of partners in creating and capturing value (Zott and Amit, 2010b).

The second section of the definition conveys dynamism. Business models are dynamic and their components and linkages change (Achtenhagen, Melin and Naldi, 2013). It is important to know which components of a business model are most important and which are most subject to change (Vermolen, 2010), with the change in components putting pressure on the linkages and dynamics affecting the entire business model (Spieth, Schneckenberg and Ricart, 2014).

Moreover, this definition enables and contextualize the study of the business school’s business model. Business schools are focal firms that connect people, partners and providers to create and deliver different type of values, capturing value in the process, while it is important to improve knowledge about business schools’ business models in terms of their components, linkages and dynamics. That is one of the objectives of this study.

2.3.4 Business model frameworks

Reflecting different definitions, a variety of frameworks attempt to reflect what a business model is and how it can best be used. For example, Linder and Cantrell's (2001) concept of the business model has seven parts: pricing model, revenue model, channel model, commerce process model, internet-enabled commerce relationship, organizational form and value proposition. By contrast, Shafer *et al.*, (2005) studied 12 business model definitions from 1998-2002 and found 42 components that were categorised in a diagram with four major categories: strategic choices, value creation, value capture and network value. The main elements the business model framework proposed by Casadesus-Masanell and Ricart (2010) are the specific 'choices' made by management and the resulting 'consequences'. Value is created by the organisation through the 'consequences' of 'choices', which ultimately permit other 'choices' to be made. While choices tend to involve policies, assets and governance, 'consequences' in turn can be flexible or rigid.

Johnson (2010, p.24) suggests a framework based around four interdependent elements that create and deliver value for the organisation and its customers: a customer value proposition, a profit formula, key processes, and key resources. Johnson (2010, p.24) framework will be used as the basis of this research. Lindgren and Taran (2011), meanwhile, propose a cyclical process where strategy is implemented through the business model (via a process of innovation). This generates a new 'core' business which allows the business strategy to be achieved. The authors suggest that the innovation cycle creates a 'platform' on which the company's 'core business can be based'. In their book 'Business Model Generation', Osterwalder & Pigneur (2010) present a framework based on nine 'basic building blocks' which cover four main business areas: Customers; Offers; Infrastructure; Financial viability. This framework has aroused great interest among academics and managers and is widely used to model existing businesses and to promote business model innovation (Massa, Tucci and Afuah, 2017).

2.3.5 Business model innovation and change

This study seeks to contribute to understanding the elements that drive business model change in business schools, following Linder and Cantrell's (2000) concept that it is by changing models that organisations adapt over time in an uncertain environment while remaining profitable.

The topic of business model innovation has grown in popularity in recent years (Filser *et al.*, 2021). As a result, the number of published articles have grown, alongside a concern to consolidate existing knowledge, identify gaps and pursue new research (Filser *et al.*, 2021). As stated by Amit and Zott (2012), business model innovation matters to managers (Pohle and Chapman, 2006), entrepreneurs and academics for various reasons, including their potential as a source of sometimes neglected value and for the fact that this kind of innovation is harder to imitate than product or process innovation, giving a more durable competitive edge. Numerous factors have been suggested to enhance the selection, design and modification of business models (Reuver, Bouwman and MacInnes, 2009), with understanding demands, perceptions and behaviour of both customers and competitors forming the core of any attempt to build a new business model (Teece, 2010).

As an area of knowledge that is still young and shares some uncertainty with the area of business models itself, Foss and Saebi (2017) have highlighted that business model innovation suffers from some definitional inconsistencies that require a deepening of investigation and theorisation (Saebi, Lien and Foss, 2017). Gassmann *et al.* (2016) did an exhaustive investigation identifying fifty theories that can be considered relevant to this topic, including dynamic capabilities, evolutionism, resource-based view ambidexterity, contingency theory, and agency theory.

Many authors state that business models are an essential source of innovation (Chesbrough and R. Rosenbloom, 2002; Geissdoerfer, Vladimirova and Evans, 2018; Amit and Zott, 2020), and the business literature is replete with examples regarding product innovation (Cooper and Kleinschmidt, 1987; Johne and Snelson,

1988; Bucherer, Eisert and Gassmann, 2012; Lyytinen, Yoo and Boland Jr., 2015) and service innovation (Bouwman, Haaker and De Vos, 2008; Tongur and Engwall, 2014; Lusch and Nambisan, 2015). However, this type of innovation is time-consuming, requires a lot of investment, and resistance to imitation is not always easy to maintain (Amit and Zott, 2020). As a result, executives are increasingly turning to innovation in their business models as a means of survival (Zott and Amit, 2015; Kruh and Freedman, 2018). Meanwhile, some successful business models have managed to reconcile innovative technology, products and services. Apple's business model is one well-known example (Sosna, Treviño-Rodríguez and Velamuri, 2010). As stated by Teece (2010): "To profit from innovation, business pioneers need to excel not only at product innovation but also at business model design, understanding business design options as well as customer needs and technological trajectories."

Aligning strategy with context is imperative for companies' competitiveness, performance and sustainability (Christensen, 2001), as these are the resources required to satisfy customers (Wernerfelt, 1984; Barney and Clark, 2007). Yet the organisational environment, technology, markets, competition, resources and customer needs, among other factors, are constantly changing (Morris, Schindehutte and Allen, 2005; Gerasymenko, De Clercq and Sapienza, 2015). It is thus necessary to develop strategic sensitivity (Zott, Amit and Massa, 2011) to those changes, to identify them, predict the impact they may have and to decide on how to react how (Demil and Lecocq, 2010; Bourreau, Gensollen and Moreau, 2012). These decisions can lead to changes for which it is possible to identify a before and after. Such changes can variously involve the entirety of the business or discrete elements of the business model (Khanagha, Volberda and Oshri, 2014).

Saebi, Lien and Foss (2017) described two major types of business model dynamics: adaptation and innovation. Adaptation refers to changes in the business model over time following an external trigger, including gradual evolution, learning, and erosion and life cycling of the business model. Adaptation is made by aligning the business model with changes in external conditions, such as customer preferences, technological changes, or competition. Innovation, in turn, resides in the creation, usually disruptive, of innovative models, through which

management actively seeks to change conditions and the market. The two dynamics differ in that innovation can result from adaptation, adaptation can be non-innovative, adaptation is a response to an external factor, and innovation can be a consequence of an internal or external factor. Adaptation seeks to adapt the model to external conditions, while innovation seeks to shape the market or industry through disruptive innovations.

While business models allow companies to take advantage of technological innovations (Teece, 1988; MacSweeney, 2006; Baden-Fuller and Haefliger, 2013; Hu, 2014), developing a new technology or product is not synonymous with commercial success. There are also numerous examples of inventors of technological innovations that were unable to take advantage of their innovation because the appropriate business model was not created, such as digital photography in the case of Kodak (Johnson, 2010, pag.158), where they missed the alignment with the changing context. A classic example of success in this regard is Xerox, described by Chesbrough and Rosenbloom (2002) as a business model that unlocked the value of a technological development.

Understanding how companies perceive the need for change, implement it, and cope with long-term sustainability concerns are essential to analysing business model transformation. This research examines the drivers and impacts of change, effects, the process, limitations and outcomes to understand why and how change occurs. Those are the themes discussed next.

Drivers and impacts of change

The need to improve business performance and reduce risk are essential drivers of change (Reuver, Bouwman and MacInnes, 2009). Using the Ansoff matrix (Ansoff, 1957), the evolution of a business can be chartered following several strategies (Meldrum and McDonald, 1995), potentially allowing access to new sources of revenue, and thus increasing the organisation's sustainability and expanding the customer base or products/services. A market penetration strategy involves selling more to the same customers, while a market development strategy aims to enter new markets with current products/services. A product

development strategy, meanwhile, involves selling new or improved products to current customers, while a diversification strategy implies the creation of new products to sell in new markets. All these strategies aim to increase sustainability and reduce risk, but these two objectives can be at odds. Change always brings an implicit risk that cannot always be foreseen at the outset.

Reputation can be also a driver in changing a business model (Amit and Zott, 2001; Johnson, 2010). The example of the emissions scandal involving Volkswagen in the USA, known as diesel-gate, is paradigmatic (Bachmann *et al.*, 2019). That episode and the need to clean up and change a corporate reputation forced essential changes, including a heavy investment in electric cars, expanding the value proposition to clean and more economical vehicles, and developing new key resources and processes. Organisations seek to ensure they have the best possible reputation because they know that it means more business and sustainability (Ma and Osiyevskyy, 2017).

Organisational learning and knowledge can be pivotal for business model change. As stated by Sosna *et al.* (2010), “Routines and beliefs change through two learning mechanisms: trial-and-error experimentation and organizational search”. During the start-up period of a firm, the learning process is determined by the founder's past training and experiences. While this is often thwarted in established businesses by organisational inertia or lock-in effects, established companies can develop systematic mechanisms to learn and experiment, besides having the financial resources required to do that. Additionally, learning is a dynamic process of trial and error that enables the innovation process to thrive in an unpredictable environment. Sosna *et al.* (2010) underline the need to distinguish single and double learning loops. In the first loop, individuals identify departures from the norm and adjust their behaviour appropriately, without abandoning the basics. In the twofold learning loop, the organization's core characteristics are actively questioned (Levitt and March, 1988).

Assessing the impact of changes in organisations and business models is a familiar task for managers and a focus of study for academics (Kettinger, Teng and Guha, 1997; Patterson *et al.*, 1997). Decision-makers frequently assess the impact of

change on their organisation, whether from changes in the market, from technology, or from unforeseen events such as Covid-19. Such assessment is critical for anticipating the concrete implications of change. Some will be small, others significant. Change can also prove to have varying impacts at different points in time. Based on these implications, managers must make decisions that minimise the impact of negative changes and enhance the impact of favourable change (Sharma, Mithas and Kankanhalli, 2014). Naturally, assessments and decisions taken depend on distinct factors, such as the degree of accuracy of the information or existing forecasts.

Impacts can be of very different natures and degrees (Saebi, Lien and Foss, 2017). For example, a technological impact is very different from a market change or a change in the legislative context (Bourreau, Gensollen and Moreau, 2012; Consoli, 2012). Consequently, these changes can have different degrees and implications. Impact reduction often involves the implementation of countermeasures, increased knowledge, new partnerships or more profound changes to the business model, while boosting impacts can involve redirecting resources, investing in technology or applying them to new products or services (Saebi, Lien and Foss, 2017).

Some impacts are predictable and others are unexpected (Bourreau, Gensollen and Moreau, 2012). For example, it was expected that the introduction of MOOCs would have an impact on teaching. Indeed, such an impact was even desired by some sponsors and business schools. Other examples of predictable impacts include the need to reduce fuel-combustion cars due to their impact on the environment (Holmberg and Erdemir, 2019). Some impacts, meanwhile, are unexpected, with Covid-19 providing a current and prominent example (Baldwin, Weder and Mauro, 2020). In this specific case, Covid-19 had a decisive impact on the development of vaccine technology, with the unused mRNA technology becoming part of the panoply of tools in medicine and the pharmaceutical sector (Abbasi, 2020).

Impacts sometimes imply transformation and adaptation. The consequences of such impacts naturally depend on their type and degree. If the type of change is

relevant and broadly affects an organisation, it can have important consequences, both positive and negative. If the impact is significant, there is usually a reaction of change that requires adaptation to new circumstances, leading to a new stage of stability that is different from previous circumstances (Muzyka, De Koning and Churchill, 1995; McKeown and Philip, 2003).

Business model change process

Several studies have been carried out to better understand the process of changing a business model, including phases such as initial screening, change activities, design activities, implementation and evaluation (Wirtz and Daiser, 2018; Balocco *et al.*, 2019; Andreini *et al.*, 2021), which will be detailed below.

The process of business model change often starts by identifying changes in the surrounding context, such as in the market, in technology or in the regulatory setting (Raphael Amit and Zott, 2015). These changes become visible through more or less formalised mechanisms, activities or processes in organisations that make it possible to identify opportunities and threats. After this initial phase (Wirtz and Daiser, 2018), it is necessary to deepen understanding of their potential impacts, anticipating what activities need to be carried out to react to the change (Balocco *et al.*, 2019). Establishing goals for this process of modifying or adjusting the business model, as well as the method by which this adjustment will be carried out, is crucial at this early phase (Heikkilä, Bouwman and Heikkilä, 2018).

After the initial exploration phase, it is necessary to consolidate the design of the new model (Osterwalder and Pigneur, 2010; Wirtz and Daiser, 2018). Idea generation, methods of implementing change, prototyping and scenario creation can all play a critical role in this phase (Zott and Amit, 2015). Each organisation has its particularities, and it is necessary to design a feasible model that considers all the stakeholders involved, including mechanisms to overcome potential barriers. In short, a robust implementation plan is required (Wirtz and Daiser, 2018).

In the next step, it is necessary to proceed with implementation of plan drawn up beforehand (Wirtz and Daiser, 2018). At this stage, the role of management is central in preparing an organisation for change in terms of internal and external communication, especially with suppliers and customers who will be impacted by the change (Rune Todnem, 2005). It is a continuous process of fine-tuning the impacted activities, as results are not always those predicted. At this stage, an ability to react quickly to problems and unforeseen events is crucial for enhancing the results achieved.

Finally, it is necessary to assess the change process and the extent to which the objectives outlined have been fulfilled (Zott and Amit, 2015). This evaluation must be iterative over several periods as changes take some time to consolidate and produce results. This evaluation and the learning obtained in the implementation process impact the activities being executed, stimulating fine-tuning and continuous improvement.

Other proposals for business model change processes include those of Amit and Zott (2012), who argue that business model innovation can occur in several ways, including by adding novel activities (changing content); linking activities in novel ways (changing structure), and changing who do the activities (changing governance).

Limitations to business model change

Studying change in business models also implies studying the barriers to such change. Adaptability is required to survive and grow in a world where many relevant things change quickly (Buliga, Scheiner and Voigt, 2016; McKee, Varadarajan and Pride, 2018). Few organisations change their business models over time, and even fewer do so regularly with a systematic methodology (Sinfield *et al.*, 2012). Bouchikhi and Review (2003) state that these efforts at change are often doomed to fail. Several authors have studied the limitations of business model innovation, but there is still no consolidated knowledge and theory. The present thesis aspires to make a contribution in that direction.

The problem of identifying a need to change itself can be a barrier. It is not always possible for those who manage organisations on a day-to-day basis to envision that it is necessary to adapt in the face of changes in their operating context, as these shifting circumstances do not always manifest themselves in an obvious way or with a significant degree of impact from the beginning (Johnson, Christensen and Kagerman, 2008). Sometimes a reaction to a change business model is too late, such as in the well-known cases of Nokia (Aspara *et al.*, 2013; Spieth, Schneckenberg and Ricart, 2014) or Kodak (Christensen, 2006; McGrath, 2010). In order to be successful in this regard, it is necessary to develop strategic sensitivity (Zott, Amit and Massa, 2011) for change and to have the means and will to understand the implications of change in depth. In addition to sensitivity, it is essential that change is met with developing leadership and evolution in the business model (Chesbrough, 2010). Without these conditions, change can fatally wound a business model, and no one wants to be responsible for a company's demise (Chesbrough, 2010).

Some authors identified the conflict between the old and the new as a barrier to shifting business models, especially in terms of resources, processes and knowledge (Amit and Zott, 2001). This conflict can lead to a rupture in the operations of an organisation, creating a lack of motivation for the new model, uncertainty, a lack of resources or changes in internal power dynamics. The degree of transformation required can also be a substantial barrier to change, and both internal and external barriers may be detected (Froud *et al.*, 2009). The economic costs associated with change can also be a relevant barrier (Johnson, 2018).

Managers' level of experience and their predisposition to change can also prove to be significant barriers. Chesbrough (2010) refers to leadership, experience and prevailing logic as constraints in this sense. Leadership is central in bringing people together, maintaining unity, and reallocating resources and decision-making power to support a new model (Yves L Doz and Kosonen, 2010). Past success or lack thereof and assessments of past implemented changes and results can all impact the future predisposition for change among those whose task is to lead (Johnson, Christensen and Kagerman, 2008). Conservatively following a

"dominant logic" (Prahalad and Bettis, 1986) of how the world works and of each organisation's space in it can limit change or the identification of possible better outcomes (Chesbrough and R. S. Rosenbloom, 2002).

Uncertainty around the impact of a new technology under a given business model is another barrier to change (Andries and Debackere, 2007). Indeed, the case of the introduction of MOOCs in business schools is a prototypical case, where the implementation of a technology raises legitimate doubts among decision-makers. Bocken and Geradts (2020) discuss this problem with reference to sustainable business model innovation, where avoiding uncertainty plays a prominent role in creating various institutional, strategic and operational barriers. Avoiding uncertainty is also linked to maximising shareholder value and a shorter-term vision. Uncertainty also influences the concept of risk how change may be implemented and its consequences (McGregor, 2013). Uncertainty may be associated with assets that need to be acquired or restructured, access to resources, a lack of understanding of processes, or unknown hazards that might affect change (Bouchikhi and Review, 2003).

The research raises fascinating questions about various limitations, many of which require additional exploration. The objective here is to gain better knowledge of the nature and origins of such limitations, as well as their impact on the business model transition process.

Business model change outcomes

Several studies have sought to better understand the results of business model change processes carried out by organisations. Some focus on performance improvements, others on gains in flexibility, growth and sustainability.

According to Osiyevsky and Dewald (2015), change in the business model can have two generic intentions: 1) explorative adoption of a disruptive approach, and 2) explorative strengthening of the existing approach. The first seeks a radical change in the business model, either holistically or as part of a current offering. The second aims to introduce additional value-added services to obtain benefits

and attract the best customers. Osiyevsky and Dewald's (2015) investigation yielded diverse insights. First, the strategic decision to change a business model depends on a mix of factors associated with the situation and a manager's disposition. Second, the perception of the opportunity of disruption and the threat of reduced performance plays a positive role in the intention to follow this model. Third of all the dispositional factors, the manager's previous experience in making change in situations of risk is the most relevant.

The business outcomes of business model change can have diverse dimensions and be positive or negative. By altering the business model, value may be created and appropriated via the employment of new technologies (Chesbrough and Rosenbloom, 2002) and competitive advantages achieved (Christensen, 2001). Change can be transformative in terms of generating value in the link between information systems and technology (Hedman and Kalling, 2003), and can also accelerate the development of innovative network dynamics (Calia, Guerrini and Moura, 2007).

There are various research gaps as to the drivers, process, constraints, and outcomes of business model change, design and selection (Pateli and Giaglis, 2005b). One objective of this study was therefore to determine those characteristics and the reasons for business schools' desire to change their business models, the type and source of such drivers, and the engagement of essential resources, like faculty or managers, in that transition.

2.4 MOOCs (Massive Open Online Courses)

MOOCs are a recent phenomenon, not well understood in the management literature, and the impact of certifications and changes in costs, teaching resources, access and equity must be further studied (Breslow *et al.*, 2013). The emerging concept of open must also be further explored (Sabana and Hine, 2015), alongside the possible impact of MOOCs in the future of education (Burd, Smith and Reisman, 2014; Chang, Hung and Lin, 2015). Other relevant avenues of investigation include how MOOCs can be used by companies to train their people

(Elmar Schultz, 2014; Radford *et al.*, 2014) and as a business opportunity (T. Clarke, 2013; Elmar Schultz, 2014)

From a practical perspective, MOOCs are a new type of educational tool (Martin, 2012; Ferguson and Sharples, 2014) consisting of free, open and online learning courses. MOOCs can be attended by anyone interested in learning more about a subject, without restrictions of place and time (Liu *et al.*, 2013; Impey and Formanek, 2021). Generally, there are no previous requirements to enrol in this type of course, with people merely requiring an internet connection to create an account in the MOOC platform and to follow the instructions. MOOCs normally contain videos, texts, presentations, discussion forums and quizzes that are used to both transfer knowledge and interact with instructors, moderators and participants (Dillenbourg *et al.*, 2014). Some MOOCs give participants the option to obtain a certificate as an added value, usually for a fee and after passing an assessment (T. Clarke, 2013). MOOCs also offer opportunities for networking among people with similar interests from different parts of the world and in diverse institutional contexts (T. Clarke, 2013; Vivian, Falkner and Falkner, 2014).

2.4.1 The history of MOOCs

MOOCs have been created and launched by many institutions (Daniel and Uvalić-Trumbić, 2014). The first MOOC appeared in 2008 (Cormier, 2008; Margaryan, Bianco and Littlejohn, 2015) and the concept has evolved substantially in recent years. In a talk about an open course at the University of Manitoba, Dave Cormier and Bryan Alexander invented and used the word for the first time in Canada (Daniel and Uvalić-Trumbić, 2014). The course itself was devised by George Siemens and Stephen Downes and entitled “CCK08”, Connectivism and Connective Knowledge. The course was offered to 25 paying students and 2,300 other interested persons, including some university students. MOOCs emerged as a means of connecting people and information across the Internet. Other early examples emerged at Stanford University, where academics Andrew Ng and Daphne Koller founded Coursera in April 2012 to collaborate with institutions in developing and providing MOOCs. In December 2012, the British FutureLearn platform was founded (Weller and Anderson, 2013).

MOOCs can be developed by many institutions such as universities, standalone schools, consultancy firms, and commercial and not-for-profit organisations. MOOCs can emerge from the full range of disciplines, from medicine to the fine arts (Milheim, 2013; Tirthali and Ed, 2014; Macleod *et al.*, 2015).

The MOOC idea has evolved in recent years, focusing more on organisational connections than individual connectivity (Bates, 2012; Fox, 2013). Two new notions were created from these discrepancies: cMOOC (connective MOOC) and xMOOC (extended MOOC). cMOOCs adhere to the “connectivism and networking ideology”, emphasising autonomy, variety, and openness, and with most material created by enthusiastic and self-directed students (Siemens, 2005). xMOOCs, on the other hand, take a behaviourist approach to education, depending on content dissemination, assignments, and peer evaluation to ensure high-quality material (Rodriguez, 2012, 2013).

MOOCs have aroused increasing levels of public interest. The years after 2012 saw a rapid increase in the number of MOOCs offered and in the institutions and participants involved (Chansanam *et al.*, 2021). The leading platforms have also made a considerable effort to raise and promote their MOOCs, while companies have started to look at MOOCs as potential teaching tools to economically scale their employees (Dodson, Kitburi and Berge, 2015). Anyone looking to learn about a subject or obtain a certificate demonstrating their skills is increasingly looking to MOOCs.

Many universities, colleges, institutions, and other organisations are establishing and publishing open courses in many fields to attract students and global attention (Hew and Cheung, 2014; Wahid, Ahmi and Alam, 2020). These institutions make their courses available via platforms backed by start-up capital, non-profits, and the universities themselves. Since 2008, the platforms have followed two branches of MOOCs: the connectivist branch and the Stanford branch. In the Stanford branch, various platforms such as Coursera, Udacity, Khan Academy, edX and Udemy were regarded as critical players in MOOCs in 2012 (Ong & Grigoryan 2015). Dozens of institutions from across the globe have announced relationships with major US MOOC providers, including in Canada, Asia, Mexico, China and Europe.

The United Kingdom launched its own MOOC movement in December 2012 with the establishment of FutureLearn (Parr, 2013), a consortium of UK-based institutions that includes the University of London, the University of St Andrews, Cardiff University, The Open University, and King's College London (Anderson, 2015). The cost of creating a MOOC on this platform is expected to be around £30,000 (35,000 euros) (Parr, 2013).

Some MOOCs are created by the conjunction of different institutional efforts (Milheim, 2013), such as the MOOC entitled “Why Research Matters”¹, created by Deakin and Griffith Universities. Another example is the MOOC “Blended Learning Essentials: Embedding Practice”², created by the University of Leeds and UCL, Institute of Education. Such arrangements would appear to reinforce a MOOC’s impact, institutional partnerships and results (Burd, Smith and Reisman, 2014; Nagashima, 2014).

Despite the high focus and growth of the early years, MOOCs have been losing attention, have been less disruptive than anticipated and are now better known. According to Zhu, Sari and Lee (2020) it is possible to identify 2 different periods: from 2009-2016 and from 2017-2019. In Phase 1 (2009-2016) the MOOCs were mostly open and free. In Phase 2 (2017-2019) the focus passed to revenues and credentials. The division into these two phases results from a set of identified trends: 1) reduction in the number of participants in MOOCs, 2) MOOCs are mainly used to obtain credits, 3) companies use MOOCs to train their employees, 4) some regional providers of MOOCs appeared, 5) a reduction in the number of isolated MOOCs and 6) an increase in paid courses. However, according to Sultan (2018), a viable business model for MOOCs is emerging and the potential for disruption still exists.

¹ https://www.futurelearn.com/courses/why-research-matters?utm_campaign=griffith_exploring_economics_next_generation_november_2017&utm_medium=organic_pr&utm_source=pr

² <https://www.futurelearn.com/courses/blended-learning-embedding-practice>

The Covid-19 pandemic has increased the appetite for MOOCs (Safri, Mohi and Hanafiah, 2020), with people confined but wanting to continue to learn and acquire new tools to be more valuable in the job market. They also had more opportunities to dedicate themselves to this activity (Kichu and Bhattacharya, 2021). Institutions also increased their offer and companies induced their employees to learn. According to statistics from the classcentral website, in 2021, there were 19,400 courses available online from 950 universities, with 70 MOOC-based degrees offered to 220 million learners (Shah, 2021).

2.4.2 How MOOCs are created?

MOOCs create new resource demands for the development and delivery of teaching (Tirthali and Ed, 2014). They demand the contribution of many people because they need to bring together different skills and expertise (Weller and Anderson, 2013; Flamenbaum *et al.*, 2014; Gašević *et al.*, 2014). Creation of a MOOC requires institutional support in terms of funding (Porter, 2015), time and staff (Gaebel, 2013; Karesenti, 2013; Root Kustritz, 2014), with a comprehensive team usually put together to create and deliver MOOCs (Peco and Luján-Mora, 2013; Ferguson and Whitelock, 2014). Faculty members or experts are the central piece in terms of content and actors in the MOOC (Firmin *et al.*, 2014), providing topics and, in connection with other team members, developing the methodology of delivery, the course roadmap, and times, materials and assessment. They are also generally the presenters of the course materials. Many teams will also require a project manager to put the pieces together and assure that everything is achieved in the established timeframe (Klobas, 2014; Tirthali and Ed, 2014). The team also requires people responsible for technical aspects such as recording, editing, file uploading and other tasks (Fiona M. Hollands and Tirthali, 2014). As MOOCs are frequently found on online platforms such as Coursera, someone must manage the relationship with partners. Some persons are responsible for dealing with all the formalization needed for the a project (Tirthali and Ed, 2014). Invariably, the better a team works, the better the results (Klobas, 2014).

Creating MOOCs as a useful learning experience is a very demanding organisational process. Time and resources required frequently place pressure on those involved

(Elmar Schultz, 2014). Normally there is a plan for the MOOC that includes the title, the objectives, the chapters, the materials needed, the timeline of the several chapters, and a project plan for the MOOC as a whole (Fiona M. Hollands and Tirthali, 2014). The MOOC project plan will contain the activities, dependencies and resources required, such as people, money and partnerships, and the time expected for the conclusion of each activity (Mackness *et al.*, 2013; Salmon *et al.*, 2015). The first part of the project focuses on the MOOC design, the second on materials preparation, the third on the assembly and uploading of materials, and the fourth on online delivery to participants (Elmar Schultz, 2014). In this last aspect it is important to follow the activities, to understand how people are interacting with the content and other peers, to manage issues and answer questions of participants and to ensure generally that everything runs smoothly (Mackness *et al.*, 2013).

2.4.3 Why MOOCs are created?

MOOCs are seen by universities, higher education institutions and other players as an opportunity to spread knowledge and education supported by technology (T. Clarke, 2013; Yuan and Powell, 2013; Al-Atabi and Deboer, 2014; Hollands and Tirthali, 2014). Technology expands the boundaries of possibility, making it possible to access extensive educational resources through the internet (Daniel, 2012a). Beyond individual images and files, it became possible to integrate an extended educational community that includes institutions, faculty, specialist and others (Saadatdoost *et al.*, 2015). This provides access to structured content that enables learning, promotes debate of ideas, and creates relationships between people from different geographies (Kedem and Puchalla, 2012; OBHE, 2013). Supported by the internet, it is possible to overcome geographical and temporal barriers, as courses can be followed at any time and in any time zone. They can also be accessed from different devices, including computers, smartphones and tablets and using various operating systems or software, though they remain technology independent insofar as they use open web-based protocols (T. Clarke, 2013; Godwin-jones, 2014; Tirthali and Ed, 2014).

2.4.4 The business model of MOOCs

MOOCs may threaten the traditional dominance of brick-and-mortar schools as high-quality higher education providers (Finkle and Masters, 2014). Students benefit from decreased tuition fees and global access to courses and faculty from prestigious schools (Liu *et al.*, 2013). However, the advantages to institutions are less evident, since developing and delivering material suited for mass student consumption incurs a significant financial cost (Hollands & Tirthali 2014, White *et al.*, 2014).

MOOCs are quite different from traditional face-to-face courses. MOOCs are free, available and open to anyone, so they are attractive to substantial numbers of potential students (S. de Freitas, Morgan and Gibson, 2015). Being generally of open access, they can be easily incorporated into the instructional portfolio of other institutions (Finkle and Masters, 2014). Unlike traditional higher education courses and programmes, MOOCs often offer streamlined application procedures with no chance of rejection. Students are allowed to determine whether they satisfy specified prerequisites, and in certain MOOCs students may easily disregard the course designer's suggested structure of learning assignments (Burd, Smith and Reisman, 2014). As a result, MOOCs might be thought of as being free of the institutional limitations that a regular education system imposes. A MOOC promises that it will provide free access to the highest level of education and to innovative research. According to Yuan & Powell (2013), the construction of MOOCs is based on the ideals of accessibility in education, the open dissemination of knowledge, and on the learning process being made available regardless of demographic, economic or geographical barriers.

Higher education institutions offer MOOCs for a variety of reasons, including exposure, experimentation and brand expansion (Educause, 2012). However, institutions may be concerned about the promise and attractiveness of MOOCs' since they can affect enrolment at conventional schools and eventually disrupt the higher education industry if improved to the point where learners may finish degrees and receive credentials (Terwiesch and Ulrich, 2014). Financially, universities provide MOOCs for several reasons. Three of the most often claimed

are collecting fees for certificates, connecting students and future businesses and charging fees for additional services. Moreover, according to a study conducted by Moody's Investors Service (Kedem and Puchalla, 2012), the following opportunities exist: new revenue streams, increased operational efficiencies, increased global brand awareness, enhancing and safeguarding students' fundamental residential campus experiences, and the creation of new linkages of a far larger scale throughout the sector, allowing more schools and institutions to specialize and reducing operating expenses. This would seem to reflect a recognition that for-profit and certain not-for-profit organisations that do not connect with growing trends come under increasing competitive pressure (Palvia *et al.*, 2018). Next, the Mark Johnson (2010, p.24) framework will be used to describe the business model of MOOCs.

Value proposition of MOOCs

The value proposition is evident for those who attend MOOCs: learn what you want, free of charge, from any place or time (de Langen and van den Bosch, 2013; de Freitas, Morgan and Gibson, 2015; Radford, Coningham and Horn, 2015). At first glance this is very positive, especially for those who do not have the resources to access education elsewhere. It also facilitates contact with other participants with similar interests, expanding their social and professional networks (Impey and Formanek, 2021). Students of MOOCs can also access certificates that demonstrate the acquisition of new skills or knowledge and MOOC study is generally compatible with other activities such as work (Hew and Cheung, 2014). Adults may find MOOCs particularly appealing since they may be independent and in charge of their learning. Careful analysis of learner experiences, motivations, engagement and satisfaction inside MOOCs are critical to understand and explain learner satisfaction and value obtained (Moore and Blackmon, 2022).

Key activities of MOOCs

Creating MOOCs involves several key activities (Peco and Luján-Mora, 2013; Root Kustritz, 2014; Terras and Ramsay, 2015), including the attainment of approval and the necessary funds for their development, whether from internal sources of

from donations or investors. It is also necessary to define content, teams, necessary resources and records, and to produce and make the content available on appropriate platforms (Fiona M. Hollands and Tirthali, 2014; Pomerol, Epelboin and Thoury, 2015). Marketing must attract as many candidates as possible and it is also necessary to follow up during MOOCs to ensure quality and student engagement. Finally, results must be analysed and improvements systematically applied in new editions or new MOOCs (Adamopoulos, 2013).

Key resources for MOOCs

Key resources for the creation of MOOCs are mainly of 3 types: human, technological and infrastructure (Sandeem, Jarrat and Parkay, 2013; Dillenbourg *et al.*, 2014; Elmar Schultz, 2014). Faculty and support teams are central to the development of a MOOC project, and technology is needed to record, edit and produce presentations and videos (Kolowich, 2013). Infrastructure is important for its role in ensuring the quality and speed of execution, including aspects such as rooms, furniture and scenarios that raise the level of sophistication and quality of the result (Lucas, 2013). Naturally, financial resources are critical to developing these three key resource types (Pomerol, Epelboin and Thoury, 2015).

Profit formula of MOOCs

MOOCs are not usually created to generate revenue through sales participation, as they are free by principle (Aparicio, Bacao and Oliveira, 2014). However, funds are needed for their creation. Currently, MOOCs are built on a "freemium" model in which material is supplied for free and extra services are offered for a fee (Porter, 2015). One possible source of revenue is the sale of certificates of completion, but this does not usually attract significant levels of revenue (Baker and Passmore, 2016). Rather, sources of funds tend to be indirect, via sponsorships with counterparts for brand visibility or using funds from an institution's marketing and communication budgets (Porter, 2015).

2.4.5 Research opportunities on MOOCs

According to Martin (2012), MOOCs are becoming a much-discussed topic in education, and the recent growth in academic research on MOOCs indicates a curiosity about the phenomenon (Wahid, Ahmi and Alam, 2020). Perhaps it is a recognition that there is a need to understand more about distance education, identify gaps in our knowledge, and delve deeper into the potential consequences of introducing new approaches.

Although open learning environment research is still in its infancy, MOOCs have piqued the curiosity of scholars (Fournier, Kop and Durand, 2014), and several research avenues could be followed, like for example how higher education will be affected by MOOCs, how data generated by MOOCs can provide research-based analysis of instructional strategies, how to help students learn more efficiently, and about student's goals in MOOCs (Breslow *et al.*, 2013). The MOOCs phenomenon is just ten years old and, from Google trends, it grew significantly until 2013, with interest then decreasing and remaining stable from 2018 with a peak in April 2020 related with covid-19 lockdown. Meet and Kala (2021) detailed several research avenues like for example, the impact of covid in learners, instructors and providers, the learning outcomes, the learner behaviours, the experience in using MOOCs, the relation between motivation, language and social barriers.

2.5 Business Schools

The term 'business school' refers to any type of school, public or private, local or global, standalone or within a university, that offers tertiary-level education and training in management and business, including colleges and universities (Dameron and Durand, 2017b).

Business schools have conquered the world (Cornuel and Eric, 2007). After the Second World War, they had sustained growth, and between the 60s and 80s, they developed especially in Anglo-American countries. The 1990s saw the rise of European schools (Collet and Vives, 2013). Countries traditionally resistant to the

concept, Germany and Japan also began to develop business schools (Clarke, 2008). Many schools linked to their universities or as private initiatives were developed during this period. Today business schools are all over the planet, with a particular preponderance in countries with greater economic power (Antunes and Thomas, 2007; AACSB, 2021, p.8). The latest AACBS report states that 1,670 educational members from 123 countries belong to its network (AACSB, 2021, p.11). The estimated number of business schools in 2018 was 13,000 (Peters, Thomas and Smith, 2018). According to the AACSB, more than 250,000 MBAs are enrolled worldwide (John A. Byrne, 2022). The number of Graduate Management Admissions Test (GMAT) tests taken between 2016 and 2020 was over 1,100,000 (GMAC, 2021).

2.5.1 Research in business schools

As established domain knowledge is increasingly accessible and available and is a poor source of competitive advantage, research is increasingly vital for business schools to differentiate themselves, to enhance their reputation, to increase revenue and to provide better service to students and client companies (Gupta and Bharadwaj, 2013; Vazquez Sampere, 2013; Chia, 2014; Chia and Holt, 2014; Thomas and Wilson, 2009; Thomas, Lee and Wilson, 2014; O'Brien *et al.*, 2010).

Research focused on challenges faced by organisations or society creates in-depth knowledge on relevant and current issues (Rayment and Smith, 2013). Schools must be very attentive to the context in which the world works, and studying challenges, problems and developments forces them to explore these themes more deeply (Binks, Starkey and Mahon, 2006). A rigorous investigation of reality and empirical data creates valuable knowledge which is expressed in theses, articles, books and cases (Gosling and Mintzberg, 2004). In turn, this knowledge must be incorporated into teaching, whether in training programme or events and conferences, in order to disseminate research (O'Brien *et al.*, 2010). This in-depth investigation then enables the identification of new areas of research, challenges and possible answers (Hay, 2008; Starkey and Tempest, 2008).

From time to time, organisations face complex realities to which they do not have an adequate response internally (Baker and Baker, 2012) and ask business schools for help in finding solutions (Thomas Clarke, 2013; Starkey, Ken and Tempest, 2009). Thanks to their faculty, resources and network of contacts, schools have increased capacities to deal with such challenges and can be a rich source of consultancy and research into concrete circumstances (Starkey and Tempest, 2008; Cornuel, Eric; Hommel, 2012). Developing knowledge, producing teaching material and increasing connections among entities is a win-win for everyone.

Research plays a central role in business schools, so there must be incentives to promote this activity (AACSB, 2011, p. 220; Ranjan, 2011). These incentives cover topics such as career development, reputation, time and even salary. It is common to hear the expression “publish or perish” (Miller, Taylor and Bedeian, 2011), in a clear sense that a faculty member is either doing research that generates publications or their academic career may be at risk (Martensson, Bild and Nilsson, 2008; Lorange, 2013).

Research offers schools a competitive advantage, with schools that manage to dedicate resources to research be better prepared to teach on current topics and innovate (Thomas and Wilson, 2009). This also leads to greater results in rankings and visibility in the market (Siebert and Martin, 2013), which allows them to teach subjects that other institutions do not and thus be more attractive to researchers and students. Research creates new knowledge and allows concepts and innovations to integrate more easily into the school environment. Research also makes it possible to expand the school's network of contacts (Lorange, 2012).

2.5.2 Teaching in business schools

The primary goals of business schools are research and teaching, which are tied to one another (Armstrong and Sperry, 1994). Teaching is critical as the main mechanism by which value is delivered to students (Hay, 2008). Above that personal value, students build their professional careers. Teaching can be transmitting knowledge, developing curiosity and interactions, and instilling a love of learning. As stated by Hay (2008), “one of the greatest challenges facing a

business school today is the development of truly valuable life-long learning opportunities.”

Teaching management is teaching knowledge transformed into actions (Rousseau, 2012). This action-oriented knowledge (Lorange, 2013) exists in two primary forms. The first is the knowledge that comes from practice, but which can be obtained, assessed and adapted when necessary, and which combines theory and practice. It is the knowledge that contains concrete guidelines and uses the form “if, then” (Rousseau, 2012). The second has to do with new or complex situations (Bin Jiang and Murphy, 2007) that do not fit what is already known by the learner, a realm of uncertainty (Spender, 2014) or incomplete information (DeLacey and Leonard, 2002). Certain techniques are necessary in such cases, such as dividing a big problem into smaller and more manageable problems. Another option is using scenarios and models to simplify reality and help learners take steps towards obtaining the necessary information (Fielt, 2013). Teaching that leads to action must be evidence-based (Groccia and Buskist, 2011; Rousseau, 2012).

While schools do not always use the knowledge that exists about teaching (Pfeffer and Fong, 2002), it is nonetheless possible to identify effective business teaching practices (Rousseau, 2012). The first is to identify from the outset what students should know by the end of a training course, with the level of knowledge achieved and skills developed clearly quantified (Greensted and Hommel, 2014). Evaluation must be provided according to the intended results. The second is to have a set of practices that reinforce learning, such as promoting critical thinking (Siebert and Martin, 2013) and raising awareness of cognitive biases and limitations (Bloch and Spataro, 2014). Sometimes it is necessary to correct false beliefs or prejudices so that students can learn. Finally, it is crucial to recognise that intellectual challenge, novelty and disclosure are critical to high-quality teaching (Wilson and McKiernan, 2011).

Teaching in business schools has many goals. One is to encourage curiosity and the desire to learn (Gosling and Mintzberg, 2006). It is an old saying that curiosity leads to discovery. Managers must cultivate curiosity to arrive at new knowledge and solutions. The pursuit of knowledge develops the ability to learn. Other

objectives are to develop each student's potential to be a good manager and leader (Hay, 2008) and to increase participants' employability (Binks, Starkey and Mahon, 2006) with more knowledge and skills, increasing their value in the labour market. It is common for students to be promoted and given more responsibilities in the companies where they work following a business school education (Mihail and Elefterie, 2006). Others can access new jobs and responsibilities for the added value they derive from their learning experience. The diploma students gain from their studies attests to a set of knowledge and skills, such as learning, work capacity, leading people and teams. While increased employability usually comes with a pay increase, some schools are criticised for focusing too much on the potential for increased pay in promoting their activities (Hay, 2008). Another goal of teaching in business schools is give students the tools to make better decisions (Brian Atwater, Kannan and Stephens, 2008). This objective has multiple impacts, both personal and professional. Making better decisions helps get better results and exercising this ability will usually improve over time with the experience gained.

It is possible to define both good and bad teaching (Ghoshal, 2005), and teaching quality is essential to delivering capabilities and higher personal value to students. A study by the London Business School identified three global capabilities: knowledge, skills, and leadership attributes. Knowledge “covers the basic functional areas and is typically accumulated early in a managerial career”, skills include “assessing skills, communication skills, action skills and decision skills”, while leadership attributes are “essential for the assumption of leadership roles and responsibilities.” (Hay, 2008, p.375)

There are many teaching methods, some closer to business reality, others more conceptual (Thomas and Thomas, 2012). The best known are the case method, conferences, online simulations, group work, and guided investigation. While different methods should be used according to the desired results, today, the case method is widely used by business schools (Starkey, Ken and Tempest, 2009). Created from real situations, this method brings into the classroom various different business scenarios and problems to be solved (Gosling and Mintzberg, 2006). Often using storytelling techniques, cases capture the reader's interest and

awaken a desire to resolve the issue at hand. Reading cases promotes learning about the topic under discussion, with individual study laying the foundations for a deeper discussion with peers and faculty. Cases are descriptions of real-life situations that require a solution/decision (Barnes, Christensen and Hansen, 1994). Students should seek to resolve them based on their knowledge and experience. The difficulties to be resolved in these cases are knowledge gaps that students work to fill. The definition of the problem and the alternatives for action are not always immediate or obvious. Information is limited and different people make different analyses and propose different solutions (Barnes, Christensen and Hansen, 1994). From the comparison and sharing of views and argumentation, more profound and broader perspectives are born. Alongside the case method are other pedagogical strategies, such as project-based learning (Kokotsaki, Menzies and Wiggins, 2016), collaborative learning (Laal and Ghodsi, 2012), service-based learning (Andrews, 2007), problem-oriented learning (Woods, 2014), and inquiry-based learning (Woods, 2014; Khan, 2015).

It is good for faculty to be trained to understand and apply various methods, and input from pedagogical specialists can be helpful in adapting methods, students, objectives and contexts of training (Eisenberg *et al.*, 2013). Extracurricular activities (AACSB, 2011, p.284) are sometimes used to enhance learning and provide a variety of dynamics, such as music, dance, social service and volunteering (Baker and Baker, 2012). Some schools even promote programmes abroad in order to give students experiences in other countries and contexts (Khan, 2015).

Business schools teach and help students develop creative thinking (Brian Atwater, Kannan and Stephens, 2008). Traditional functional subjects like strategy, operations, finance, people, and marketing are usually present in business schools teaching (Thomas and Cornuel, 2014). In addition to mastering the different areas, students must have the ability to integrate this knowledge in complex real-life circumstances (Bennis and O'Toole, 2005). Merely receiving this knowledge is not enough and it is necessary to develop critical thinking. Business schools have long recognised the importance of developing their students' critical thinking (Bloch and Spataro, 2014). Some schools refer to critical thinking as an outcome of their

activities and use it as a selling point. Employers often value this output achieved in schools because it is advantageous in a business environment.

It is one thing to teach and another to learn. In academia, when it comes to teaching, it is customary to give primacy to faculty over students (Martensson, Bild and Nilsson, 2008). Faculty and business schools are often criticised because they focus too much on teaching, content, techniques, PowerPoints and not on what students actually learn (Jones, 2015). Naturally, it is critical that faculty take care of what they teach, ensure they use the best teaching methods, choose the best content to transmit, and try to perform as faculty in the best possible way before, during, and after classes. However, this high level of execution may not be enough to obtain the learning desired by students, with a crucial component of the learning process on the learner's side. Such learning also depends on numerous factors, some of which are beyond the learner's control. The following quote illustrates that:

“It’s not what you tell your students that counts. What counts is what they take away. That’s because the more you tell them, the more they will forget. Moreover, you can’t learn for them. They must do it themselves. Your role as a teacher, therefore, is to spark and guide their learning and help to make it last.” (Martensson, Bild and Nilsson, 2008)

When applied in context, learning becomes more significant. Many business schools try to use experiential teaching methods that actively involve participants (Pfeffer and Fong, 2002; Cornuel, Eric; Hommel, 2012). The case method invites participants to put themselves in the role of the decision-maker and choose a decision based on their knowledge and perspective (Martensson, Bild and Nilsson, 2008). This choice must be defended and explained. Roleplay is another active method often used in which students assume a particular role and develop a dialogue and actions to defend their interests or those they represent (Humpherys, Bakir and Babb, 2022). Simulations are another effective learning technique as they make it possible to achieve specific results and offer the great advantage of allowing students to simulate decisions and strategies without real risk (Eisenberg *et al.*, 2013; Lichy, Khvatova and Pon, 2014; Witte, 2014).

The application of knowledge can be immediate or deferred (Simons, 1999). Some knowledge and skills can be applied almost immediately if they are close to participants professional activity. The application and results obtained validate the quality of learning and create a positive reinforcement towards learning (Baker and Baker, 2012; Ng, 2015). It is very gratifying and even exciting to be able to see problems and situations with other ways of thinking, which help students make decisions and see reality differently. In other cases, when knowledge is not immediately applicable as it is outside the participant's area of expertise, it may be retrieved later by memory. On the other hand, contact with knowledge and skills allows students to discover areas of interest that they did not know existed and to enhance their professional and academic development (Fleck, 2012).

Technology creates pressure on teaching, with younger generations and digital natives bringing different expectations about how faculty teach, how technology is used, and how degrees are awarded (Carlson, 2005). While faculty see technology as an essential tool, it poses significant challenges in terms of, for example, the amount of time needed to learn to use it (Parker and Burnie, 2009). However, studies show that technology greatly enhances faculty learning and effectiveness (Parker and Burnie, 2009). Digital technologies can promote dynamic interactions between faculty, students and the educational community (Lichy, Khvatova and Pon, 2014) and can create virtual learning communities where communication, knowledge, and experiences are no longer limited in time and space. As stated by Tonks (2005, p. 372) although educational technology has the potential to enhance learning experiences and results, it is not a given that this will occur.

Many educators are reluctant to spend time and money on new teaching and learning technologies unless they can demonstrate their effectiveness (Smyth, 2003; Deaker, Stein and Spiller, 2016). Some professors prefer face-to-face training and reject innovative pedagogy as an impersonal delivery technique or an excessively computerised evaluation procedure (Jensen, Price and Roxå, 2020). There are also issues about plagiarism and the isolation of learners. In response to these complaints, the digital sector has developed online resources that can be

customised according to the development of each student, as well as extensive instructor feedback and “attendance” monitoring (Rahni *et al.*, 2015).

Blended teaching

Blended learning environments have become more popular over the past decade, creating a need to learn more about them (Dziuban and Moskal, 2011). While the debate over the exact definition of “blended learning” continues (Graham & Allen 2009, Kaleta *et al.*, 2007), there seems to be considerable agreement that blended learning combines face-to-face and online instruction (Graham & Dziuban 2008, Stacey & Gerbic 2008). In general, definitions derived from the current research concentrate on three distinct scenarios (Graham 2013): a) combining online and face-to-face training, b) blending teaching paradigms, and c) blending educational methods. Some formulations of blended learning also suggest a decrease in face-to-face interactions in favour of online activities (Picciano, 2009). Smythe (2012) emphasise the improvements in quality in blended learning, emphasising its transformative potential. For example, Trentin and Wheeler's (2009) definition mandates that online and conventional face-to-face activities be integrated as part of a deliberate strategy to increase overall pedagogical quality. The movement toward digitisation in education also emphasises the need to gain a deeper understanding of this instructional technique.

Electronic marketplaces for education are a possible example of a disruptive technology in management education (Christensen, 1997). According to Hawawini (2005), there is an increasing demand for “blended” programs that integrate “on-campus” teaching with workplace learning enabled by ICT, notably in the fields of continuous and executive education. In the future, business schools' strategic challenge may be to strike the optimal balance between “bricks and mortar” and “clicks and mortar” operations.

Hawawini (2005) has identified challenges and opportunities for business schools, one of which is the effects of ICT on teaching and learning methods. Leveraging ICT investments could overcome faculty shortages (Cornuel and Eric, 2007) and allow a school to reach a larger number of students and prospects. The traditional

model of face-to-face interaction will have to evolve and technology is part of this. These new forms of learning are being developed and will provide business schools with the capability to respond to the needs of tailor-made management development, including on-the-job learning solutions. It has been shown that online education provides learning results at least as useful as those obtained by conventional training (Means *et al.*, 2009). Business schools may deliver excellent, cost-effective education in a variety of fundamental management topics by investing in learning technology. As a result, faculty time may be used more efficiently and productively, as faculty can focus on more advanced, challenging aspects of the business curriculum (Thomas and Peters, 2012).

Most agree that blended learning will continue to grow in popularity. Even typical face-to-face school teaching procedures will include significant online components, and online information and resources will eventually replace printed library contents (Fleck, 2012). Traditional face-to-face training has recently been combined with various new elements, most notably online activities. Technology has been instrumental in enabling these improvements. As a result, there is often much anticipation that a given innovation - video on demand, internet, virtual reality, remote communication and social media - would significantly advance educational offerings. These may even be considered “disruptive innovation”, leaving traditional forms of operation obsolete and allowing new firms to dominate the educational industry. At a minimum, established conventional suppliers must adapt to new techniques to survive (Dutton and Loader, 2002).

Despite pioneering efforts in modelling distance and blended learning, such approaches have been slow to take hold in the business school context. As a result, these technologies are increasingly being employed as adjuncts to “face-to-face” training to enhance the quality of traditional professorial instructional methodologies. In many business schools, “face-to-face” instruction is regarded as having far better quality than online instruction (Thomas and Thomas, 2012).

As indicated by Fleck (2012), blended learning has significant potential and there are evident potential improvements in the quality of teaching and learning by extending the use of technology to provide more flexibility in educational delivery

(both in terms of time and geography). Immediate and targeted relevance facilitates “co-production” of pertinent information by allowing specialists, academic analysts, and observers to establish a more effective and theoretically integrated body of knowledge. The creation of proper blended learning solutions will make it possible to integrate varied geographic, cultural, economic, and political views more systematically. Thus, in contrast to the monolithic spread of the dominant Anglo-American management paradigm, this can provide a direct voice to different and usually disregarded viewpoints via learning community activities.

The impact of technology can also be seen in business schools (Fleck, 2008) and, in some cases, the criticism face, with many arguing that the business of business schools must be rethought (Schoemaker, 2008). Such challenges and opportunities may lead them to rethink their business model.

Flipped or inverted classroom

A flipped or inverted classroom provides students with access to knowledge before a lesson, whether via videos or other media (Bishop and Verleger, 2013). Time is then spent in the face-to-face component to deepen the exploration of a subject via exercises and interactive activities (Jonathan Bergmann and Sams, 2014). The emphasis is thus shifted from the instructor, as the owner of knowledge to be transmitted, to the students.

As stated by Bergmann and Sams (2016), prior access to the content included in a lesson allows a professor to structure a class and satisfy a demand for more targeted material. Rather than relying on lectures, it is proposed that the instructor acts as the repository of knowledge, transmitting it to the student via low-cost instruments (Bergmann and Sams, 2012; Bergmann and Sams, 2014; Bergmann and Sams, 2016).

The flipped classroom concept emerged due to ongoing dissatisfaction with student failure to transfer class information into meaningful knowledge that would enable them to complete assignments (Green, Banas and Perkins, 2017). For

example, Bergmann and Sams (2015, 2016), high school faculty in the United States, opted to film their courses in 2007 so that students could attend them remotely and subsequently utilise classroom time for discussion and verification of issues that had not been fully grasped. After a year of employing this strategy, the authors noted a significant change in their pupils' learning levels.

While the flipped classroom has various advantages, it is vital to acknowledge its obstacles (Bäcklund and Hugo, 2018; Feitosa *et al.*, 2019). One of these is the increased engagement and effort required of educators to get acquainted with contemporary technologies and to familiarise themselves with applications for tasks such as video editing, in conjunction higher demands on their time for classroom/material preparation (Bergmann; Sams, 2015). As Mattar (2018) notes in his reflection on the approaches required for the twenty-first century, students must also abandon a passive attitude in order to acquire a more proactive attitude toward the academic environment.

2.5.3 Business schools history

The roots of business schools can be traced back to the 18th century when the first chairs to introduce economics into universities were created (Engwall, 2007). While those contents reflected the importance of business and economic subjects in society at the time and a need to understand them better, the validity of studying these subjects at the university was questioned. These initial attempts at establishing the academic field of business and management were thus interrupted and only emerged again in the late 19th and early 20th centuries in America and Europe (Kaplan, 2014). The first business schools as are now known were born in the 1850s, followed by other initiatives associated with chambers of commerce, especially in France. In Europe, the German model of *Handelshochschulen* became predominant, while a few schools and universities emerged in the United States to take the lead in this area. The period between 1850 and the First World War can thus be considered the start-up phase of business schools (Engwall, 2007).

Following the Second World War, business schools in Europe and the United States underwent a great expansion in several dimensions such as in the number of schools, students, faculty and revenues (Khurana and Spender, 2012), but criticisms about their place within the university context continued and many questioned whether such skills could or should be taught at all. The industry evolved uncomfortably in this atmosphere and was prone to frequent periods of soul-searching and catastrophe. In this context, in the USA, the Carnegie Foundation and the Ford Foundation sponsored projects to analyse state-of-the-art management education (Dulek, 1993). These studies pointed to a need to raise the academic level in this area, which led to the admission of specialists from various disciplines in business schools, such as mathematicians, statisticians and sociologists (Engwall, 2007). The importance of multidisciplinary grew, journals were launched, professors began to research and publish, and then came the criticism that business schools were too academic. American business schools today are global leaders in management education (Kosnikov *et al.*, 2021) and the American model has been widely adopted in other regions, such as Europe.

2.5.4 Business school critics and results

Business schools face several challenges and tensions, particularly in recent years. That pressure is detected in criticisms for being too market-oriented (Schoemaker, 2008), in the balance between teaching and research (Thorpe & Rawlinson 2014, Thomas & Peters 2012), in the market lost to corporate universities (Schoemaker, 2008), increase students ability to deal with complex problems (Varela, Burke and Michel, 2013), in the need for customisation (Dameron and Durand, 2013), in the expansion of the business discipline into sub-functional fields (i.e., marketing, management, accounting and finance), in faculty scarcity (Cornuel and Eric, 2007), in limited attention to applied research (Chia and Holt, 2014), in increasing demand for internationalisation (Kwok and Arpan, 2002), in the increasing dependency of business organisations on ICT (Hawawini, 2005), in resource limitations (AACSB 2002, p.12; Bok 2004) and in the need to increase business schools social responsibility (Schwartz, Kassem and Ludwig, 1991). Some authors also suggest to shut-down business schools (Martin Parker, 2018; Martin Parker, 2018) or widening their horizons (Starkey and

Thomas, 2022). The continuity of the MBA program, maybe the most known product of business schools, is also questioned (Shane Savitsky, 2017). As stated by Gosling & Mintzberg (2004), “It is therefore time to reconsider the very idea of management education”. On the other hand, and citing Krishnamurthy (2020), first Dean of the AACSB-accredited School of Business at University of Washington, Bothell: “I firmly believe that business schools will rise to the occasion and will adopt a leadership role within the university.”

According to some authors, business schools teach students the wrong things in the wrong manner (Pfeffer and Fong, 2002; Ghoshal, 2005; Mintzberg, 2005a; Datar, Garvin and Cullen, 2010; Khurana and Spender, 2012; Simons, 2013) and it is necessary to revitalise the vibrancy, relevance and analytical edge of theory and expertise in this setting. This occurs in waves, often in reaction to significant changes in the market or in technology, sometimes as part of a conscious effort at internal renewal (Clarke, 2008). It is a moment which calls for severe examination of the sustainability of business education (Thomas and Peters, 2012).

Some believe business schools are doing an adequate job, despite recent financial upheaval (Rayment and Smith, 2013). According to the ABS (Arkin, 2009), in 2009, applications to UK business schools for MBAs and other master's programmes grew by 25% over the previous year. According to Adenekan (2009), as job prospects worsened and people sought new skills, several top business schools reported a rise in application. Others argue that business schools have reached a tipping point in their evolution (Pfeffer & Fong 2002), with Ivory *et al.*, (2006), for example, arguing that the positive story of business schools is drawing to a close and that they are in danger from various areas. Atwater *et al.*, (2008) also contend that managers are not prepared for global problems. According to Starkey, K. and Tempest (2009), the business school community has lost its capacity to critically think about what they do. Starkey (2008) has stated the business schools should teach MBAs that are more than just a ticket to a job in finance or consulting. Finally, according to Mintzberg (2005), MBA programmes are too frequently focused solely on mental development.

McCann (2006) questions whether business schools are preparing well students for the “new economy”, which is centred on science and information. He argues that new sectors will focus on the confluence of technologies, communication, and engineering. As a result, curricula must include a clear component dedicated to how dramatic technical and competence-destroying developments alter the market (McGee, J., Thomas, H. and Wilson, 2005).

Some critics focus on the MBA, Master in Business Administration, one of the leading and best-known products of business schools even questioning the legitimacy of the title itself (Latham, Latham and Whyte, 2004; Khurana, 2007; Benjamin and O’Reilly, 2011). The overly individualistic view of the development of MBAs, without a broader concern for society, is criticized (Schlegelmilch and Thomas, 2011; Rayment and Smith, 2013). Some authors question the usefulness of the MBA, with the book ‘Managers, not MBAs’ being well known and much debated (Mintzberg, 2004). Others propose rethinking the MBA once the world has changed, not least because companies and recruiters question the usefulness of conventional business training. Topics such as globalization, new leadership skills, digital, creativity and critical thinking seem to demand more attention in the MBA content (Datar, Garvin and Cullen, 2010).

2.5.5 Business school context

Organisational structures among business schools vary widely and many are linked to universities, notably in the United States, while stand-alone business schools have become increasingly frequent in other nations, notably in Europe (Antunes and Thomas, 2007). In both cases the reputation of institutions will become more important in the future. That reputation will impact employment choices and the critical social capital individuals gain from the creation of networks over their academic careers. As a result, there is reason to assume that “reputation [will be] more important for business schools than for most other organizations” (Crainer and Dearlove, 1999: p. 173). The social component of on-campus management education also offers relevant university institutions a competitive edge over Internet-based alternatives. Although they are fairly effective at conveying information, online courses are much less effective in terms of social interaction

(Engwall, 2007). It could be anticipated some few changes to correlate with the tremendous progress over the last 100 years, although business education will undoubtedly continue to expand (Hawawini, 2005).

Rankings and accreditations now play a central role in the reputation and attractiveness of business schools (AACSB, 2002, p.21; Vidaver-Cohen, 2007; Dameron and Durand, 2013) and create intense competition between them. The formulation of rankings take into account many and varied aspects and the decisions that schools make are invariably weighed up for their potential impact on rankings, influencing everything from hiring to the type of students schools seek to engage (Khan, 2015). Some people in the industry even talk about the “ranking dictatorship” and the pressure schools feel to secure the best position (Engwall, 2007). These rankings also consider the accreditations that are increasingly important for their role in symbolising a school’s quality. Besides the number of accreditations, the type of accreditation is also relevant, with some being more valuable than others. Rankings and accreditations are two phenomena that mutually reinforce their impact on business schools (Jack, 2021).

The GMAT test is another significant player in the executive education sector and is a worldwide business (Onzoño and Carmona, 2007; AACSB, 2011, p.48; Schlegelmilch and Thomas, 2011; Collet and Vives, 2013). Candidates who want to enter certain schools and training courses often take the GMAT test to assess various skills ranging from mathematical knowledge, memory capacity, and critical reasoning. Many business schools prefer or require a certain GMAT score for admission to their MBA programmes (AACSB, 2011, p.48), guaranteeing a minimum level of skills for entrance to their programmes (Siebert and Martin, 2013). This process ensures that only the best or those with the most outstanding potential enter these training programmes, ensuring better professional results in the future. Schools also benefit from such high standards insofar as they help their students access better employment outcomes, which in turn feeds back into the reputation of the school (Schwartz, Kassem and Ludwig, 1991; Pfeffer and Fong, 2002). Over time, the test results and other related information about applicants, such as geographic origin, academic history, school type and the training in

question, provide a detailed picture of the sector's trends and features (Collet and Vives, 2013).

2.5.6 The mission of business schools

The purpose of a business school has many dimensions. As stated by Simon (1967): "The purpose of a business school is to train managers for the practice of management as a profession and to develop new knowledge that may be relevant to improving the operation of business". To flourish, schools must prioritise value creation in all they do. Following Hay (2008), academic value is generated via research and distribution, personal value is developed through instruction, and social value is created by educated and skilled graduates and their interactions with the society in which they act. Academic value contributes to the advancement of a field or discipline's limits and informs and enhances management practice. Certain types of study will push the limits of knowledge, while others will directly influence the company, its behaviour, and performance. Some types of study will also be helpful to both other academics and practitioners in the field. An example of the latter is Porter's concept of the five forces of the balanced scorecard. Following Ghoshal (2005), research must be both rigorous and relevant, in theory but oriented towards practice.

Business schools provide personal value for various people, including students, managers and graduates (Ranjan, 2011). Students obtain value from the knowledge and skills they gain while learning. In 2003, the London Business School initiated an ongoing study approach to better understand the knowledge and abilities presently needed (Hay, 2008), identifying three elements of global business capabilities: knowledge (primary functional areas obtained early in a professional career); abilities (assessment, communication, action and decision accumulated in the middle career period), and attributes (acquired later in a managerial career, such as leadership). One of the most challenging tasks confronting today's business schools is the creation of significant life-long educational activities (Harrington and Kearney, 2011).

Business schools also contribute to a community's well-being by educating and producing graduates capable of making a significant contribution (Horwitch and Stohr, 2012; Dameron and Durand, 2017b); individuals who can enhance an organisation's capacity for value creation, start companies, create jobs, wealth, new possibilities, and who take part in tasks that have an impact on public policy (Hay, 2008). The process through which social value (Murillo and Vallentin, 2016) is created is multidimensional and is represented in research and teaching accomplishments, in educated and talented alumni who found firms, in proactive and devoted dedication to actively producing social benefits. Sometimes that contribution is referred as public service (Zemsky, 2013, p.183; Alstete, 2014).

Datar *et al.*, (2010) stated that the business of business schools is to train leaders and entrepreneurs, needing to: “reassess the facts, frameworks, and theories that they teach (the “knowing” component), while at the same time rebalancing their curricula so that more attention is paid to developing the skills, capabilities, and techniques that lie at the heart of the practice of management (the “doing” component) and the values, attitudes, and beliefs that form managers’ worldviews and professional identities (the “being” component).” The approach, inspired by a US military leadership program, can be helpful when you want to rebalance the content to be transmitted (Narendran, Bharathan and Jajoo, 2014).

The job of a business school encompasses a variety of persons and institutions. Their mission is to educate individuals about management as a profession and to acquire new understanding of how to improve corporate operations (Gordon and Howell, 1959). The information and skills necessary to fulfil teaching and research objectives originate from two primary sources: from the world of practice, and from distinct sciences such as economics, psychology, sociology, mathematics and computer science.

Many management programmes currently place a premium on learning about fundamental aspects of management and about the structure and operation of organisations (Thomas and Cornuel, 2014). The majority of curricula cover the following topics: “the social and organisational environment (the domain of social scientists); the economic and financial environment (the domain of economists,

business cycles, lawyers and accountants); and the strategic and quantitative elements of marketing, operations, logistics and public/corporate policy (the domain of managing growth and organisational direction)” (Thomas, Lorange and Sheth, 2013).

According to some authors (Bennis and O’Toole, 2005; Pfeffer and Fong, 2002, 2004; and Ghoshal, 2005), research has often become a means to an end (Thomas and Peters, 2012), governed by university academic departmental frameworks rather than the diversified nature of businesses or the “publish or perish” incentive system that promotes academic growth (Kodeih and Greenwood, 2014).

Business schools must have a clear positioning (Chia, 2014), rather than delivering everything to everyone on a “me too” basis. The increased pace of contextual change is undoubtedly having an effect on employment, and there is widespread consensus that the days of a lifetime career in a single business are over (Kilcourse, 1995). Crainer and Dearlove, (1999, p. 105) say that business schools are simply a way of select people, people don’t attend elite business schools for the education; they go to join an exclusive club, which has nothing to do with their managerial skills. One may say that education emphasises network formation, thus playing a critical role in both the formation of elite networks and the facilitation of social mobility (Hugstad, 1983).

2.5.7 Distinct views about the purpose of business schools

There are as many different views about the purpose of business schools (Starkey and Tempest, 2008) as there are distinct stakeholders and communities involved. Business sees them as providers of services, teaching and research and a way to improve their own businesses with better people and managers. For the managers of business schools, their purpose is to prepare managers and leaders to run and develop organisations in a competitive environment (Dameron and Durand, 2017a). Academics see business schools as scientists producing and transmitting knowledge of business (Starkey and Tempest, 2008). Students see them as a way to improve their careers and increase their chances of obtaining better salaries (O’Brien *et al.*, 2010). Society more broadly wants business schools to contribute

social value by training better managers, researching and teaching relevant issues that will improve the wellbeing of society.

Business schools have to prioritise and integrate various interests, which may at times be in conflict (Rayment and Smith, 2013). For example, learners and companies want to pay less for business education, but faculty members would like to receive more for their work. This frequently raises the issue that schools are also often businesses and must ensure their sustainability based on serving different stakeholders (Thomas and Cornuel, 2012; Thomas, Lee and Wilson, 2014).

2.5.8 Drivers for business school change

Like in other economic sectors, business schools face a high level of competitive pressure (Cornuel, Eric; Hommel, 2012; Hommel, 2009; Clarke, 2013) and the business background has been changing and accelerating in recent years. In this context, the pandemic has further accelerated change and poses new challenges to organisations, which must adapt quickly (Krishnamurthy, 2020a). Business schools which operated for years in a stable environment like the university environment now find themselves in a more dynamic context of increased competition, not only from business schools but also from consultants, companies and other organisations. That wide range of training options create intense competition in the executive training market and make differentiation vital (AACSB, 2002, p.14; Thomas, Lee and Wilson, 2014). Business schools must make substantial efforts to make themselves known to potential customers, whether companies or individuals (McKendall and Lindquist, 1997; Curtis *et al.*, 2014). There is thus a great need to find less saturated and possibly more effective and economical channels to reach potential beneficiaries of the offer (Onzoño and Carmona, 2007; Thomas and Thomas, 2012).

This growth in external competition is also seen in the competition for the best professors and employees, who are increasingly costly to hire, train and retain. This context of change also impacts people and companies that seek training in business schools responds to their current and future needs (Gupta and Bharadwaj,

2013). Technological changes also create demands for updating knowledge, investigating trends, and updating facilities and equipment. Funding sources are increasingly scarce and in smaller volume, creating pressure on the revenue side. The increase in costs, competition, technological demands, innovation and reputation, updating of knowledge and offer, customer demands, among others, put significant pressure on business schools that are forced to adapt their business models (Vazquez Sampere, 2013).

Competition and business schools as power centres

There is intense competition among business schools (Thomas, Thomas and Wilson, 2013; Cornuel, Eric; Hommel, 2012; Onzoño and Carmona, 2007), particularly for potential revenue and high profile students. However, business schools are also places in which power is concentrated, either because of the existing knowledge that can multiply investment, because of contact networks, or because of the capacity to influence favourable decisions. As a result of this attractiveness, there is a growing number of business schools and other companies with similar offers, including training centres, consultants or even universities outside the area of economics and management. An example of this expansion to other areas of knowledge is the increased focus of business schools on technological topics that seek to attract managers to their training (Lichy, Khvatova and Pon, 2014).

Business education is a saturated market (Pfeffer and Fong, 2004) and an excess of supply in this market does not always mean higher quality. Online training offers have further aggravated this situation, bringing new competitors, learning formats and cost structures to the market.

New kind of students, markets and technology

New generations have different desires, behaviours and needs (Carlson, 2005; Brian Atwater, Kannan and Stephens, 2008; Vazquez Sampere, 2013). Accessing information simply, quickly and cheaply is changing the way people learn. Many say they want to learn on their mobile phone and move away from more traditional

ways of learning. It is a challenge for faculty to keep up with this change and maintain student interest in their classes. Sometimes it is necessary to teach differently, using either video or online technologies. PowerPoint is an increasingly frequent presence in the classroom (Parker and Burnie, 2009) and many other options are becoming mainstream like Google classroom or Moodle (an open source learning system).

Attention time is increasingly reduced (Horwitch and Stohr, 2012; Thomas and Thomas, 2012; Terwiesch and Ulrich, 2014) as a result of the consumption of information and knowledge in small time periods and of the acceleration of connections. While analysis of videos for MOOCs shows successively lower time durations, effectively transmitting knowledge in just a few minutes is challenging (Martensson, Bild and Nilsson, 2008).

New generations want to learn online and to be able to demonstrate and share their experiences with their peers (Lichy, Khvatova and Pon, 2014; Martensson, Bild and Nilsson, 2008). Recent years have seen a shift towards online learning using features such as information search (such as Google), arranging of content (such as bookmarks in internet browsers), viewing contents differently (such as with YouTube videos), and communicating and learning from people on the other side of the world (such as MOOCs) (Horwitch and Stohr, 2012). Such features also include accessing information and knowledge and sharing functionalities through cloud services, which make it possible to share content with a pre-defined set of people. Online learning is also a social phenomenon where people seek to meet others with similar interests and experiences. The access provided by mobile phones to information, communication and social media is beginning to make it the preferred device for learning (Gentry *et al.*, 2015). Even in face-to-face classes, it is common to use online tools for quick surveys (for example, through mentimeter.com, an online survey software).

Business schools need to increase revenues and from new sources

Competitive pressure among business schools is high, as is the need for new sources of revenue (Thomas and Peters, 2012; Horwitch and Stohr, 2012; McGrath, 2007). There is a large offer on the market of executive training from business schools and universities and other organisations such as consultants or business associations (Onzoño and Carmona, 2007). This offer must compete for customers who want training and stimulate this need among more potential clients. In addition, online offer via remote learning poses new challenges as they introduce new competitors to the market. Sometimes these competitors are internationally recognised business schools with effective marketing and communications budgets. Physical barriers to market entry no longer exist, and these same schools often introduce programmes in the local language, thus overcoming that barrier as well. Due to their expertise and research, they can also offer very up-to-date programmes and content that can be particularly attractive to potential customers and with credentials of recognised value in the labour market. Competitive pressure from local and international players creates difficulties in attracting students.

In this context of increased competition for customers, other costs have also been rising (Kimberly and Bouchikhi, 2016; Harker, 2015). Attracting the best faculty, technology, staff, good facilities and services usually implies high fixed costs. Only with these resources is it possible to attract the right customers who, in turn, make their bargaining power count against the broad offer on the market. This pressure often leads schools to make an internationalisation effort towards less mature markets, but this also implies substantial investments and assuming operational, financial or political risks (Guillotin and Mangematin, 2015; Kwok and Arpan, 2002; Cornuel and Eric, 2007).

There is also pressure to increase and diversify revenue sources (AACSB, 2011, p.205; Kimberly and Bouchikhi, 2016). While schools benefited for some time from government support to meet existing costs, the trend has been to reduce this support, forcing schools and universities to look for new sources of income. These new sources of funds require a more diversified offer, often customised to the

client's requirements and a greater proximity to the market. This pressure has led to increasingly aggressive sales drives, the constitution of fundraising efforts (Hawawini, 2005), formal Alumni associations, the organisation of sponsored events, and other solutions to obtain new sources of income.

MOOCs can be seen as a solution to broaden an institution's offering, to gain more customers, to diversify revenue streams and to better prepare faculty for online education that may carry greater weight in the future. The creation of MOOCs leads to an enrichment of the value proposition for customers, who can now access an online training solution at any time, place and rhythm. It also serves as a way of experimenting with school training and teaching quality (Martensson, Bild and Nilsson, 2008; DeLacey and Leonard, 2002) and allows schools to take their brand and name to new geographies and potential new customers, whether for the online or face-to-face offer. Sales of MOOC certificates could be significant with sufficient volume, such as when training large groups of people in larger companies. The creation of internally prepared knowledge, resources and teams for online teaching strengthens the school in terms of skills in online teaching, which may come to have a more relevant weight as new generations enter the labour market and rise in the decision-making hierarchy of companies.

[Business schools need to innovate and sometimes be pioneer](#)

Schools are often criticised for their traditionalism (Kimberly and Bouchikhi, 2016; Useem, 2014) and the teaching and functional model of most business schools has remained essentially unchanged over many years. Sometimes this stability is criticised, such as for a lack of innovation and capacity to adapt to the context and evolution of technology. New faculty in schools' question traditional ways of teaching, creating internal and external tensions to introduce innovations that reflect dynamics and adaptability to new contexts. The need to train managers who can perform well in the new context also forces them to introduce innovations (Vazquez Sampere, 2013) and MOOCs can make a useful contribution to this desired innovation, helping with the need to increase revenue, customers, geographic scope and to prepare faculty to teach in new ways.

Innovation and technological projects such as MOOCs allow schools to create a wide range of digital assets that can be used in very different scopes, such as in classrooms, in internal and external marketing, and on social media (Fleck, 2008). Such projects also facilitate blended learning offers with gains in flexibility and costs for end customers. Digital assets also allow for a more significant online presence of schools, whether on social media or in promoting their faculty and specialists with new visibility.

Being a pioneer can make a difference in an institution's reputation (Thomas, Thomas and Wilson, 2013; Thomas and Thomas, 2012; Schoemaker, 2008) and the novelty effect can have a major influence on a school's reputation. Being the first to introduce a technology, a new offering or a solution helps create an image of cutting-edge innovation. This differentiation is difficult to achieve and maintain as it is typically easy to imitate new solutions. However, sometimes the objective is not just to take advantage of a specific innovation but to create the image of an innovative school at the forefront of its field.

From the study of this topic was possible to understand the evolution of business schools and the context in which they currently operate (Engwall, 2007; Khurana and Spender, 2012); to discover the arguments of critics (Schoemaker, 2008; Thomas and Peters, 2012; Thorpe and Rawlinson, 2014) and the value they deliver to individuals, companies and society (Hay, 2008); to study the business model from a holistic perspective and in each of its elements (Khanagha, Volberda and Oshri, 2014); and to deepen the dimensions of teaching (Hay, 2008) and research (Chia and Holt, 2014). This process enabled the identification of future trends and many linked to technology and online.

This section grew during data collection and analysis. With the advancement of data collection, it was possible to identify significant areas of knowledge about business schools not yet covered in the literature review or covered but to be deepened. It was an iterative process of gathering information from interviews, systematising major themes for further exploration in terms of the literature and then enriching the literature review and developing original approaches.

2.6 Research gaps

One of the objectives in each of the three subjects areas of the literature review (business models, MOOCs and business schools) was to find connections, reinforced ideas and overlaps between areas to determine the main trends and relevant theories. On the one hand the idea as to look to see the forest in the three dimensions, to find the big picture, but also to find the overlaps between all of them to delimit the area of research and research gaps. Trends, perspectives and relevant topics were simultaneously identified to reflect in the literature review.

The challenges and opportunities faced by business schools, the growing interest in MOOCs and technology, and the need to fine tune management education shows the relevance to study the impact of MOOCs in business schools. The knowledge obtained from digital platforms in terms of how many students look for content, how they interact with and learn from it and how they apply knowledge to new challenges can give valuable insights as to how to develop content and structure the business school offer. While this theme has been studied in the American context (Terwiesch & Ulrich 2014, Christensen *et al.*, 2014), it is also important to study this phenomenon in a broader geographical context, with a focus on how MOOCs can be a source of value creation (Amit and Zott, 2001) and the nuances of internal impacts in business schools.

In this research context and after the literature review explained in Chapter 2 several questions started to emerge related with potential streams of research and contributions to knowledge.

Despite the potentially disruptive impact of MOOCs on business schools and business schools importance for individuals, companies and society, the topic has received limited attention (Caputo *et al.*, 2021). To date, the literature search has failed to identify a single study that deals with the concrete question of the impact of MOOCs on the business model of business schools. Business models and the business model of business schools are also areas that require further study.

In first place there are studies that analysed the motivations of universities to start doing MOOCs (Liyunagunawardena *et al.*, 2013; F M Hollands and Tirthali, 2014; Godwin-Jones, 2014). Those motivations are for example strategic growth (Marshall, 2013), marketing (Dellarocas and Van Alstyne, 2013), strategic collaboration (MOOCs@Edinburgh, 2013), evolution (Yuan and Powell, 2013), response to learners (Castells, 2000) and learner analytics (Breslow *et al.*, 2013). Although these studies are helpful in the broader context of universities, it seemed relevant to know more deeply the reasons that led business schools, which have their own business model, to create MOOCs that represents an operative logic quite different from their traditional way of operating. Specifically, the objective was to know which drivers made business schools and individuals take this path. After reviewing the literature, and as much as it has been studied, it is a topic not yet studied in a structured and deeply way in the academy.

Secondly, and if the perspective of the drivers of the introduction seemed relevant, also the view of how individuals saw the change in their tasks and roles in MOOCs aroused research interest, in a way that, as far as is known, is original. The business model concept is closely linked to organizational structure, processes, resources and activities. Therefore, the perspective of the concrete actors that operate within the business models seems to be an enrichment for the area of business models.

It finally became clear that it was essential to study whether and how the introduction of MOOCs by business schools changed the business model of business schools. This investigation would allow a better understanding of the “why”, the mechanisms and processes of this impact, its dimension and future consequences. It is also an opportunity to research more about the business model of business schools (Kilcourse, 1995; Onzoño and Carmona, 2007; Thomas and Peters, 2012; Thomas and Cornuel, 2014). There are studies that cover the topics but it lacks a deeper understanding of the concept. However, based on the analysis carried out, as here too, there seems to be a research gap.

This dissertation will contribute to partially fill the research gaps after revising the literature, devising the research questions, creating the research design,

collecting data, analysing it, explaining the findings, contrasting the with the literature and answering those research questions.

2.6.1. Business schools and MOOCs

The motivation of business schools to create and deliver MOOCs can seem counterintuitive and that is also a research gap to fulfil. Business schools normally operate in a closed and expensive context (Pfeffer and Fong, 2002; Antunes and Thomas, 2007; Thomas, Lee and Wilson, 2014), whereas MOOCs are the very opposite of this (Yuan and Powell, 2013). The objectives for the creation and delivery of MOOCs by business schools can be categorised in distinct categories, such as a need to attract students and brand promotion, to learn about online education, to make money, and to spread knowledge. With MOOCs, business schools can show anybody in any part of the world how good they are and the quality of their research and teaching. In so doing they can increase their brand awareness and reach many more people with fewer costs than traditional marketing tools (OBHE, 2013). Creating MOOCs can prepare business schools and their faculty for a future in which online education will grow ever more relevant (Root Kustritz, 2014). MOOCs are also an opportunity to make money directly through the provision of optional certificates, and indirectly through the access they can facilitate to traditional face-to face-classes (Liu *et al.*, 2013). Finally, business schools have the mission to spread knowledge and MOOCs are a way for participants to receive that knowledge (Whitaker, New and Ireland, 2016).

MOOCs can help business schools address some of their challenges, including the need to increase and diversify revenue sources (Curtis *et al.*, 2014). MOOCs can generate direct revenue from certificate sales or constitute new marketing and communication tools to reach new markets. Business schools are sometimes seen as closed institutions (Hay, 2008) and MOOCs being open could help break that image. The costs associated with faculty are high (Spender, 2014) and using MOOCs can reduce the number of face-to-face classes and allow faculty to devote more time to research. Teaching will increasingly be online (Kumar *et al.*, 2017) and MOOCs can help institutions transition their human and technological resources, so knowing how to do it seems relevant.

MOOCs may also constitute a significant threat to business schools (Terwiesch and Ulrich, 2014), allowing external schools steal students and potential customers in their own market. This can drive schools to invest in technology and MOOCs to not be left behind, with uncertain returns from such investments (Valentin, 2015). MOOCs can lead business schools to lose focus on their core competencies and focus on areas where they cannot differentiate themselves. There is also a risk of reduced research due to a greater focus on teaching, brand risks associated with inferior online teaching, or other uncontrolled factors. MOOCs can further create internal fissures between those who support them and those who reject them among faculty (Burd, Smith and Reisman, 2014).

2.7 Research questions

This literature review identified in the literature the impacts MOOCs can have on the business model of business schools. Despite the potentially disruptive impact of MOOCs on business schools, the topic has received limited attention. To date, to the best of our knowledge, the literature search has failed to identify a single study that deals with the question of the impact of MOOCs on the business model of business schools and the drivers for individuals and business schools introduce MOOCs. Business models and the business model of business schools are also areas that require further study.

This study thus aims to understand the impacts of the introduction of MOOCs on the business model of business schools. The approach will be a holistic overview of the business model and its components. The research questions chosen to fill the research gaps are:

- (1) What drives the adoption of MOOCs by business schools?
- (2) How do individuals perceive their changing roles in the production and delivery of MOOCs?
- (3) To what extent do MOOCs affect the business model of the business schools?

These questions will be answered using qualitative methods, case study method, Eisenhardt's approach and Gioia's methodology.

This study aims to add to and enrich academic debate and understanding of business models via the use of the Mark W. Johnson (2010, p.24) framework, business schools and MOOCs. The aim is to gain new insights by empirically exploring these concepts through a case study. Based on the literature review, the business model concept is more or less vague and requires further empirical and theoretical elaboration, which could be achieved through qualitative research using the Gioia method.

While a well-known and growing sector, critiques of the business school industry have suggested a need to rethink its business model and role in society (Starkey, Hatchuel and Tempest, 2004; Schoemaker, 2008; Peters, Smith and Thomas, 2018). MOOCs are a relatively new and emerging approach and are seen as a disruptive technology that both threatens and opens new opportunities for business schools (Terwiesch and Ulrich, 2014). MOOCs are something like the opposite of business schools in that they are massive, open, free and online. This research examines and exhibits how the business model may be utilised to comprehend and conceptualise a business school's business model and how it has been altered following the introduction of MOOCs. The role of business schools in society (Hay, 2008), the impact of MOOCs and value creation through the business model concept (Teece, 2010) are the focus of various scholars and practitioners. This study is thus essential, relevant and warranted for the academic field.

The next chapter explains and justifies the research methodology and techniques used to address the research questions.

Chapter 3 Research design and methods

This chapter critically outlines the methodological choices of the study design, data collection, and analysis. The chapter begins with an overview of methodology and philosophy, followed by a discussion about the research strategy and rationale, including methods, ethical approval and quality of the research design. The following explains the case study context. The next section details the analytical procedures used to collect data, mainly participant interviews and the use of secondary data, and the procedure for selecting participants for data collection is justified. The following section explains the methods of data analysis, including approaches to coding and themes. The final sections cover the research limitations and chapter conclusion. The goal is to provide a clear description of the phenomena studied and the methods used in this study.

3.1. Research philosophy

Philosophical assumptions form the theoretical foundations of research, influencing the approach, methodologies and techniques employed. As stated by Easterby-Smith *et al.*, (2015, p. 46), a researcher must understand such assumptions for several reasons. First, to recognise their epistemological viewpoint and understand the reflective characteristics of various available research methods. Second, to understand what evidence is required and how it should be collected and analysed. Third, to know how these design decisions affect the research questions. Furthermore, qualitative researchers are likely to come across some social limits when they investigate and root their study in reality (Denzin and Lincoln, 2017). Being conscious of one's perspective of reality (ontology) and knowledge (epistemology), as seen further below, may help one better explore and debate these limits.

Qualitative researchers are driven by abstract concepts (Denzin and Lincoln, 2003, p. 33) which underpin their views on the nature of reality (ontology), their relationship with knowledge (epistemology), and their rationalities, beliefs, and the way they see and act in the world (axiology) (Heron, 1996; Denzin and Lincoln,

2003). These concepts thus serve as the foundation for the logic of inquiry utilised to address the research topic.

Ontology, the first component, concerns the nature of reality (Saunders, Lewis and Thornhill, 2016). Identification and analysis of ontological assumptions from the outset of the study are critical for management (Chua, 1986; Sarason, Dillard and Dean, 2010) and for academics, insofar as they reveal assumptions of how the world works and the degree of adherence to particular viewpoints. The objective and subjective are two contradictory viewpoints which can be better understood through ontological enquiry (Bryman and Bell, 2011). While objectivism is in line with the notion that social entities exist beyond social actors' perceptions of reality. On the contrary, subjectivism maintains that social players' perceptions and subsequent behaviours define the analysis of social phenomena. In the latter viewpoint, the process is continuous and the social phenomena undergo modification via a process of socialisation. Pragmatism provides a third ontological viewpoint in addition to objectivism and subjectivism. According to Saunders, Lewis and Thornhill (2016), pragmatism argues that the research topic is the most critical aspect to be considered when deciding on methodology. When addressing a particular topic, one viewpoint may be better than another. After evaluation of the diverse options, the subjectivist view was chosen for this study for being the most consistent with the research objectives, the expected scientific contribution, and the attributes of the different approaches.

The second component is epistemology, or the best methods for investigating, interpreting, collecting, and sharing knowledge. Following the four paradigms of organisational analysis proposed by Saunders *et al.*, (2016) - radical humanist, radical structuralist, functionalist and interpretive - the latter seemed to be that which best represents the study's philosophical assumptions (Burrell and Morgan, 2017). The interpretative paradigm is based on anti-positivist epistemological assumptions and stresses the need to comprehend the mechanisms by which humans concretise their relationships with the world (Morgan and Smircich, 1980). Business model change in business schools was thus studied by means of respondents' perceptions and experiences.

The interpretative paradigm is one of Burrell and Morgan's (1979) four research methods for organisational study (the others being functionalist, radical humanist, and radical structuralist). These four paradigms have diverse ontologies (assumptions about social reality), epistemologies (assumptions about the optimal techniques for collecting and sharing information), understandings of human nature (the degree to which they think people have free choice), and methodologies (their beliefs on the best ways to learn about the social world and explore it). While this taxonomy has provoked discussion inside and outside the organisational studies profession (Chua, 1986; Schultz and Hatch, 1996; Perren and Ram, 2004), it doubtlessly offers a deeper understanding of the paradigms and components, which help out in the study's methodology and design.

As the foundations for every study, the paradigm concept (Kuhn, 1996) and its accompanying philosophical assumptions must be recognised from the outset in order to ensure consistency of philosophical assumptions, research design and techniques (Knox, 2003; Leitch, Hill and Harrison, 2010) and the alignment and consistency of all research components (Maxwell, 2012). Furthermore, identifying these assumptions enables the researcher to avoid inconsistencies that may jeopardise the study, aids in the selection of a good research design, and allows for the investigation of philosophical advancements that are not directly applicable to one's experience (Hussey and Hussey, 1997; Crotty, 2009; Easterby-Smith, Thorpe and Jackson, 2015).

Consistent with the research's paradigm, philosophical assumptions and nature, this study employs an inductive and exploratory approach to collecting data. First, based on the literature discussed in Chapter 2, the theoretical and empirical limitations of business model change research were acknowledged (Teece, 2010; Zott, Amit and Massa, 2011) and clear objectives were defined (Yin, 2009). Second, a focus was placed on understanding the business model change from the respondents' perspective, including a documenting of informants' experiences and of how primary and secondary data were evaluated. Subjectivism and interpretivism acknowledge the subjective aspect of reality and the vital importance of grasping and interpreting respondents' opinions and experiences (Morgan and Smircich, 1980; Lindgren and Packendorff, 2009; Burrell and Morgan,

2017). Third, utilising the systematic approach of Gioia *et al.*, (2012), there was flexibility in identifying themes and concerns after data collection, allowing ideas and frameworks to emerge from respondents' views (Patton, 2002). Finally, rather than testing theories to confirm or reject hypotheses or generalise to broader populations, data based on diverse and various empirical evidence permit theory formation in an area where theory is still in its infancy (Eisenhardt and Graebner, 2007). The study's whole design was based on the assumption that contact between the researcher and respondents was to be acknowledged and tolerated (Crotty, 2009). The study's concept and rationale, the philosophical influences on research, and the appropriate research methodologies will all be covered next.

Consistent with the interpretive paradigm, I recognise that my expertise aided me in establishing the starting point and comprehending the findings. Numerous grounded theorists think that the researcher's active involvement is essential as a part of the research process (Charmaz and Thornberg, 2020). "Theoretical sensitivity" is the capacity to draw on prior experiences and perceptions and is a characteristic of the researcher (Hall, Griffiths and McKenna, 2013). It encompasses the quality of perspectives, the ability to make sense of data, comprehend, and the capacity to identify what is relevant (Suddaby, 2006).

I set out on my study adventure after twenty-nine years of experience in operations and as an assistant professor at a Portuguese business school, with contacts in a network of more than twenty business schools and universities worldwide. Since 2017, I have also been part of the school's board of directors, besides being COO (chief operations officer) and assistant professor in operations management. Now with more than thirty years of experience in operations, teaching operations and acting as a board member, I have a reasonable understanding of the research context and of relevant issues. This experience has provided me with insights that have helped me to better understand and analyse the data and find pertinent starting points for research. I believe my experience helped develop the research focus, conduct the interviews, and understand the relevance and nuances of the data (Charmaz, 2006; Bryant, 2017). This study intersects three significant areas of my interest: technology, business and education. However, I am aware of the possibility that my own opinions may lead

to interpretive bias. Therefore, I have taken several steps to mitigate any biases and improve the generalisability and validity of the research which will be highlighted throughout this chapter.

3.1.1 Methodology

A methodology is the procedures, steps and tools used to conduct research and obtain results (Taylor *et al.*, 2015) and determines the methods used in the research (Guba and Lincoln, 1994). It is also essential to recognise that the researcher beliefs, motivations, and goals influence the methods used (Taylor, Bogdan and DeVault, 2015). Researchers do qualitative research to better comprehend people's perspectives and meanings and how they make sense of their surroundings and their experiences (Merriam *et al.*, 2016). In qualitative research, the researcher is the primary tool for gathering and analysing data; the approach is inductive, and the findings are highly descriptive (*ibid*). This study's design is consistent with these attributes.

By design, qualitative research incorporates openness and adaptability (Corbin and Strauss, 2015). There is no one “correct” method; indeed, it is crucial to recognise that no design is inherently superior to any other. Those who advocate for a particular design must rely on their own opinions, arguments and the utility of their design to make their case, rather than relying on empirical evidence (Guba and Lincoln, 1994). To understand this, it is relevant to see how the world affects us. There is no way of knowing whether others see the world in the same way. The facts may appear the same to different individuals, but our interpretations of those same facts may vary between individuals and over time (Taylor, Bogdan and DeVault, 2015), in line with the subjectivism and interpretivism characteristics of the study. This means that the researcher, who is only human, may have biases that lead to emphasising certain aspects that, in turn, might be considered trivial by others (Saunders, Lewis and Thornhill, 2016). Researchers who influence the study process thus cannot isolate themselves from outside influences (Alvesson and Kärreman, 2011). Since the researcher's opinions and interpretations of events and things are not entirely objective, there can be no universal truth. As a result,

empirical data can be interpreted differently by different researchers and lead to different results (Alvesson and Kärreman, 2011).

Empirical data shows that individuals' values, motivations and roles strongly influence their behaviour in a social context. As a result, many of these characteristics are difficult to quantify using methods of the natural sciences. Interpretive and qualitative methodologies are often required to better understand a particular social phenomenon and to learn something new about people and their environment (Taylor, Bogdan and DeVault, 2015). Whereas quantitative research is concerned with counting and measuring objects (Neuman, 2013), this qualitative study is concerned with the meanings, ideas, definitions, qualities, symbols and descriptions of things based on empirical data (Berg, 2001). Following the research “onion” of Saunders *et al.*, (2016), the current study is framed in reference to several distinct options: grounded theory, single case study, Eisenhardt approach and Gioia methodology.

3.1.2 Grounded theory

The main advantage of grounded theory for this thesis is that it facilitates an understanding of patterns in business model change following the introduction of MOOCs in business schools, using semi-structured interviews with informants, despite the little existing theory. Considering the explorative nature of the research, which sought to gain new insights rather than to evaluate existing concepts (Goulding, 2002), grounded theory was chosen as the best general strategy. This section presents the main ideas of grounded theory and its implications for research, followed by the philosophical assumptions and implications for the study.

The grounded theory purpose is to gain new insights from a higher level of abstraction from data (Corbin and Strauss, 2015). In terms of consistency the theory should hang together and make sense.

A theory is an abstraction that combines many ideas to arrive at knowledge or an explanation (Charmaz, 2006). A new theory provides fresh knowledge of how to

see the world in new ways and provides new significance (Charmaz, 2006). Although grounded theory serves as a guide for interpretative theoretical work, it is not a tool for predicting the outcomes of interventions (Charmaz, 2006). Theories created using grounded theory approaches are initially substantive hypotheses that strive for utility, credibility, and uniqueness, rather than formally tested theories that strive for “absolute truth” and “universal validity” (Charmaz, 2006; Bryant, 2017).

While grounded theory is gaining acceptance, its benefits are still disputed (Hall, Griffiths and McKenna, 2013). When a grounded theory is initially created, it does not usually have the status of a formal theory that evolves over time and through further study (Bryant, 2017). Nevertheless, as Glaser and Strauss point out, a grounded theory can be instrumental in practice even before the proposed theory has been fully verified (Glaser and Strauss, 1967). There is a strong argument that science historically progresses faster through the inductive process of discovery than through proving something wrong (Locke, 2007). Consequently, this thesis aims not to propose a “one-size-fits-all” solution to the problems posed by the introduction of MOOCs in business schools, but rather aims to use the main patterns discovered to better understand what has changed in the business model. The theory that emerges from this research will contribute to the literature on business models and allow us to gain a better understanding of business schools' business models and how they change with the introduction of MOOCs.

Interviews are a time-consuming method of data collection. However, it is inherently adaptable and lends itself to studying complicated research phenomena and to the elucidation of individual perspectives on a given topic. Furthermore, given the relatively new concepts under study, interviews are an excellent research method as they allow for the collection of empirical data even when the exact amount and nature of the data is not known beforehand (King, Cassell and Symon, 1994). The collected data summary is on section 3.4.3 Collected data.

Theory building

The purpose of using Eisenhardt's approach is to develop "testable hypotheses and theory which are generalizable across settings" (Eisenhardt, 1989:546) and is consistent with theory building.

From a positivist philosophical standpoint, Eisenhardt's (1989) case study research technique is comparable to Yin's. Since 1989, Eisenhardt, her students, and co-authors have successfully applied this technique to various themes in several articles. It is a multiple case study approach in which instances are picked that are similar in one area but vary significantly in another. The two aspects are then compared. Many scholars triangulate and verify the data presented in tabular and narrative.

According to Eisenhardt, employing four to ten case studies to construct a theory that may be regarded as generalisable is the goal of this inductive and positivist technique, producing "testable hypotheses and theory which are generalizable across settings" (Eisenhardt, 1989). The technique starts with "within-case narratives and proceed with iterative case comparison procedures until a collection of constructs that may account for similarities and variations in outcomes emerges" (Langley and Abdallah, 2011:112). This strategy, like Yin's, stresses replication in a range of situations to widen and corroborate previously established theoretical links.

Despite its robustness, Langley and Abdallah claim this approach has limitations insofar as it focuses on case differences and ignores the case's complexity and temporality in favour of drawing clear conclusions. "Variance models have their own worth," they write, "but they compress time, limit attention to temporal ordering and assume that there is such a thing as a final outcome, something that can be questionable in many cases" (Langley and Abdallah, 2011:115). Another problem, they say, is that they mistrust the novelty and surprise of the results of the Eisenhardt method. Finally, they suggest that the growth of the new theory is being exaggerated, casting doubt its credibility.

3.2 Research design

As stated by Easterby-Smith, Thorpe and Lowe (1991): "... research design is the overall configuration of a piece of research: what kind of evidence is gathered from where, and how such evidence is interpreted in order to provide good answers to... basic research question(s)." Research design also reflects the importance given to distinct factors during the research process (Bryman, 2004:26-27).

The research design of this study consists of a case study of a particular phenomenon: the use of MOOCs in business schools. Unlike authors such as Eisenhardt, who equate cases with organisations, the case here consists of the phenomenon under study (Czarniawska-Joerges, 1999). For this reason, the data collection relies on multiple interviews and secondary data from various sources. The case study employs a variety of information sources (interviews and secondary data) to gather data and provide a comprehensive picture of the effects MOOCs have had on business schools. It is a case study because a lot of time and effort has been spent describing the context and environment, namely the impact of the introduction of MOOCs on the business school business model.

The purpose of the single case study is to: collect the facts; to confirm new constructs and categories and specialisation rather than generalisation. In terms of consistency follows Gioia's interpretivist method, it is compatible with grounded theory.

As the objectives of this study are to further develop existing theories on business models, business schools and MOOCs by means of qualitative research, the study design follows Eisenhardt and her positive case study method and Gioia and his inductive theorising. Unlike Eisenhardt, this design relies on semi-structured interviews and a cross-sectional analysis rather than presenting multiple case studies. However, unlike Gioia, the interviews are accompanied by secondary data for triangulation. What justifies this approach? What are the consequences?

Eisenhardt's (1989) approach for generating theories was highly influential in the development of this study plan. The Eisenhardt's roadmap allows some adaptability in methodological approach and the process is useful for a beginner to prepare and manage the research successfully. This approach to studying the impact of MOOCs in business schools was in line with the research objective, as "theory building" through cases involves the development of concepts (Eisenhardt, 1989).

While Eisenhardt's (1989) roadmap, "Table 1. Process of Building Theory from Case Study Research", was adapted for the framework of this study, the spirit of her method was maintained. Consequently, in the step, "Entering the Field," Gioia's method was used because it seemed to fit with the stated research goals and chosen methodology (Gioia, Corley and Hamilton, 2012). Gioia's qualitative methods were followed initially in a single case scenario before visual schemas were used to help identify emergent themes during data analysis.

A grounded theory plan was used to understand respondents' perceptions of the impact of MOOCs on the business model of business schools. Due to time constraints, an entire grounded theory approach was not possible; instead, a conceptual framework was used for business model (Johnson, 2010, p.24) to accelerate the research process by drawing on existing literature rather than beginning from zero, embracing the spirit of grounded theory.

3.2.1 The unit of analysis

In this research, the unit of analysis is the business model of business schools. Defining a unit of analysis can be a difficult task (Yin, 2009). In general, it defines a case's characteristics and constraints and should also be relevant to the study's research topic (Yin, 2009). A case may be a person, an event, an entity, a decision, a programme, an organisational shift, or some other focus of enquiry.

The business model is gaining more attention as a unit of analysis (Morris, Schindehutte and Allen, 2005; Zott, Amit and Zott, 2015) and has been used to help assess industries and business groups (George and Bock, 2011; Lambert and

Davidson, 2013). The business model as a unit of study can provide “a clearer understanding of the relationship between consumer value propositions, how value is produced, and how value is divided among shareholders” (Smart, Velu and Phillips, 2015).

It is essential to assess the availability of significant and relevant examples. However, researchers do not have access to all potential cases or have precise prior knowledge of the kinds of circumstances that will be theoretically important. As a result, the examples in this research were chosen to demonstrate the business model concept in various circumstances. The goal of this study is to see how business models may be utilised to understand how MOOCs affect business school business models. Business schools may be self-contained or incorporated with a university.

3.2.2 Cross-sectional

This study is “cross-sectional, involving the study of a particular phenomenon (or phenomena) at a particular time” (Saunders, Lewis and Thornhill, 2016). The phenomenon at hand is MOOCs in business schools, which are analysed in a specific period (from October 2016 to October 2018). The study aims to provide an integral understanding of how the business model idea is seen, understood, and used at various business schools through cross-sectional research. The goal of the research is not to investigate how perception of the concept changes over time, but to take a snapshot of the issue. Thereafter, underpinning the cross-sectional research.

3.2.4 Gioia methodology

After thoughtful reflection the Gioia Methodology seemed to be the best method for data analysis insofar as the research follows the inductive method to conduct in-depth empirical examination. The technique was selected to gather and analyse the data in a logical and organised manner (Gioia, Corley and Hamilton, 2012). This method was chosen because it adhered to the strict guidelines of qualitative analysis and could offer a well-defined, structured project plan that would enable raw data to be improved in specific ways while maintaining its quality and

authenticity. In terms of internal consistency follows a “systematic approach to new concept development and grounded theory articulation” (Gioia, Corley and Hamilton, 2012).

The Gioia method (Gioia, Corley and Hamilton, 2012) is intended to provide a “systematic approach to new concept development and grounded theory articulation that is designed to bring ‘qualitative rigor’ to the conduct and presentation of inductive research”. When outlining the reasons for using the Gioia approach, Gioia, Corley and Hamilton emphasised two important points. First, what does it take to add “qualitative rigour” to inductive research while keeping the original, incisive “potential for generating new concepts and ideas for which such studies are best known?” (Gioia, Corley and Hamilton, 2012). Second, “How can inductive researchers apply systematic conceptual and analytical discipline that leads to credible interpretations of data and also helps to convince readers that the conclusions are plausible and defensible?” (Gioia, Corley and Hamilton, 2012).

An effort was thus made in this study to ensure that inductive research was conducted with “qualitative rigour”, relying on a well-defined, though broad, research topic and the utilisation of “many data sources” as inputs to provide convincing data interpretations that persuade the reader that the findings are reasonable and acceptable. The author proposes to use the Gioia methodology, which “encourages the presentation of research results in a manner that shows the links among facts, emergent ideas, and the resultant grounded theory” in order to attain qualitative rigour (Gioia, Corley and Hamilton, 2012). Gioia's technique seeks to create a framework for representing both “first-order analysis” (participant ideas and codes) and “second-order analysis” in a systematic manner (researcher concepts and themes; for inspiration for labelling, see Van Maanen, 1979). This interconnection between participant ideas and researcher concepts allows qualitative rigour and is consistent with credible qualitative research, as stated by the Gioia *et al.* (2012).

Considering the preceding, the study followed the recommendation of Gioia *et al.*, (2012) to employ a methodical style to data analysis to generate and stimulate

ideas, and to make extraordinary efforts to give participants a voice and reflect their terms during the data collection and analysis phases. Gioia *et al.*, (2012) also claim that a qualitative researcher must recognise patterns in data and convert them into theoretical ideas. This study began with three well-defined research questions, gathered data from a variety of sources, captured participants' perspectives through online interview sessions, and used a systematic analysis approach that included organising the data gathered into first-order concepts, second-order themes, and theoretical categories. From raw data to concepts and themes, the data structure shows the researcher's journey through the data analysis process. This technique is critical for ensuring the rigour of qualitative research (Gioia, Corley and Hamilton, 2012).

3.2.5 Data collection: methods used

Interview as primary data collection

The interview format was semi-structured and included several loosely predefined questions focusing on individual reflection and experience. In order to enrich individual accounts, interviews did not strictly adhere to a schedule but followed a respondent-led approach in which comments led to follow-up questions (Wengraf, 2005:5.). The main interview questions can be found in Appendix 2. The questions were generic, open-ended and phrased in order to allow participants to develop new meanings concerning the topic (Galletta, 2016).

Each interview began with an exploratory question about how the interviewee came into the world of MOOCs. The focus then shifted to personal and institutional goals for participating in MOOCs, before respondents finally reflected on their perceptions of barriers, efforts, experiences, benefits, and other relevant aspects. The interviews were all conducted online and digitally recorded. Interviews lasted approximately one hour and were transcribed verbatim.

Other data sources

Documentary information is significant to any case study topic (Yin, 2009). This type of information can take many forms and should be the subject of detailed data collection plans. For each participant, interview data was completed and cross-checked with other data. A secondary data set included a CV for each interview participant about the MOOC they were involved in, including the topic, participants, duration, and information about their business school such as its history, institutional context, size, departments, and other aspects. Other documents were collected directly from informants, by Google searches or in the schools institutional sites. Secondary data was used to further supplement and triangulate the information provided by participants. In total, secondary data amounted to 1018 pages of text (see Table 3-4 Secondary data collected about or received from individuals, Table 3-5 Secondary data collected about or from schools/universities and Table 3-6 Summary of secondary data).

3.2.6 Ethical approval following university procedures

Following university procedures, I submitted the first ethical approval form to the “Ethics Committee for Non-Clinical Research Involving Human Subjects” in November 2015. After comments on the first form, the final ethics form was resubmitted in March 2016. Finally, at the end of March 2016, arrived the information from the research ethics system that “the research ethics application has been approved.” See Appendix 3 for a copy of the submitted form and Appendix 4 for the approval email.

Because of the nature of this research, I had to engage with participants and dig into their perspectives, beliefs and unique views on teaching and learning to gather data. Silverman (2005) reminds us that researchers should never forget that they are invading the private space of their participants during their research, and indeed, respondents were sometimes at home or in their office during interviews. It is important to consider ethical issues such as protecting the privacy of participants' opinions, beliefs and desires (Creswell, 2003). In addition,

Miles and Huberman (1994) point out specific considerations for the researcher throughout the endeavour that will be explored in more detail below.

Informed consent

Participants were informed of the purpose, nature, data collection methods, and scope of the study before it began. This was especially important as the approach was different from traditional face-to-face interviewing. Accordingly, informed consent was obtained from participants in advance via email and recorded at the beginning of the interview.

Harm and risk

An effort was made during research that none of the respondents were placed in a position that could harm them physically or psychologically (Trochim, 2000).

Honesty and trust

Following ethical standards acts as a barometer for the integrity and reliability of the data gathered and analysed.

Privacy, confidentiality and anonymity

Participants were guaranteed secrecy and anonymity by means of any identifying traits being deleted before the public release of any material. A statement to the effect of this guarantee was recorded at the beginning of all interviews. It was also made clear that participants' names would not be used for any purpose and that no information that would reveal their identity in any way would be shared.

Voluntary participation

Despite all the above precautions, it was made clear to participants that the research was for academic purposes only and that their participation was voluntary.

Cultural sensitivities can create ethical difficulties and dilemmas. Silverman (2005) believes that the interaction between researcher and interviewee during an interview must be viewed through the lens of a researcher's beliefs and social

concerns. As a result, suitable measures should be used to ensure that stringent ethical standards are followed to protect participants.

The quality of the study design is described in the next part, which is based on the literature review and the research techniques specified.

3.2.7 Quality of research design

For theory-building research to be credible, high-quality study design is required. Unfortunately, there are no universal criteria for evaluating this type of research (Eisenhardt, 1989). Four design tests are recommended to ensure the quality of case study research: construct validity, internal validity, external validity, and reliability (Yin, 2009). Appropriate measurements were taken (as indicated below) for three appropriate tests in this study. Internal validity was not considered to be relevant as it is the process of establishing a causal link between constants and variables. Since the research is an exploratory case study, internal validity was seen as unnecessary.

Construct Validity

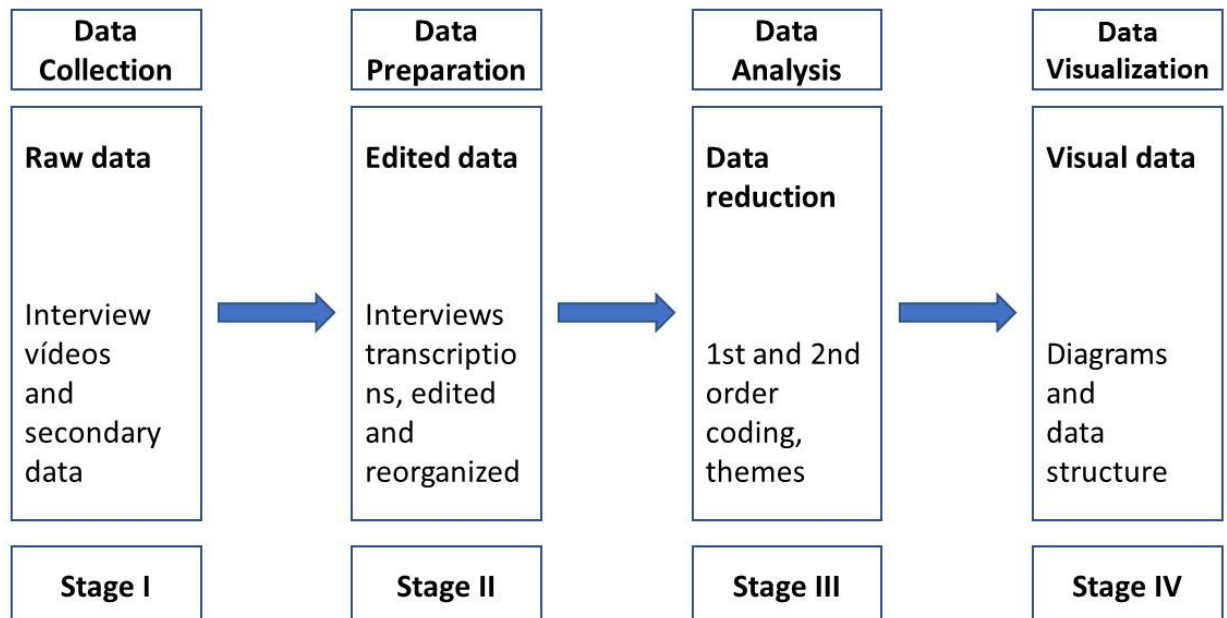
According to Yin (2009), three quality control procedures were adopted because of the exploratory character of the case. First, construct validity is necessary to guarantee that the constructs used are legitimate. In case studies and qualitative research, triangulation or “converging lines of inquiry” (Yin, 2009:115) is crucial to ensure validity (Fielding and Fielding, 1986). Because of the interviews and research of various sources, data were triangulated. Each data component held its own information set, which was often supplemented by additional data sources. Finally, other data sources or explanations were sought when contradictions appeared.

The process of creating effective measurements (operating procedures) for the ideas under investigation is known as construct validity. To ensure construct validity, it is suggested that data triangulation and a case study database are used and that the chain of evidence is maintained (Miles and Huberman, 1994; Yin,

2009). If a confirmatory method is used, any result or conclusion drawn from various sources of information should be more persuasive and accurate (convergent research lines) (Yin, 2009). Miles and Huberman (1994) make similar recommendations.

In this case, triangulation was done via distinct sources of data. Primary data was supplemented with secondary data. This approach resulted in the establishment of a chain of evidence beginning with the interview(s) and continuing through the phases of data reduction and analysis (see Figure 3-1 Process of data reduction and analysis) to display data and findings.

Figure 3-1 Process of data reduction and analysis



External validity

The second aspect is external validity, which refers to the generalisability of results (Yin, 2009). Because data is not representative, the case study technique has been criticised for its inability to be applied to larger populations. The results, however, may be used to generate and assess theories rather than populations, since the former are generalisable to theories (Eisenhardt, 1989). “Your objective will be to extend and generalize ideas [...] rather than to count frequencies,” writes Yin (2009:15). As a result, using theory is essential (Eisenhardt, 1989, 1991)

as it adds to external validity. Instead of analysing restricted and unreliable theories, the study intends to enhance theoretical concepts relating to business model change by employing facts.

The process of determining the range of application of a study's findings (beyond the case studies) is known as external validity. Although the focus of this study was on understanding the impact of MOOCs on the business model of business schools, the presence of 32 respondents and 23 organisations allows for a reasonable level of generalisation. Of course, these examples do not claim to represent the entire world of MOOCs in business schools; rather, they represent a snapshot.

Reliability

The last quality control approach is reliability, which relates to whether a different researcher might come up with the same results by using the same processes (Yin, 2009). By explicitly specifying the research methodologies, essential papers, and chain of evidence, the implementation of a case study protocol assisted in this dependability (Eisenhardt, 1989, 1991; Yin, 2009). In addition, a research strategy to guide the study and a data management system for secure data storage and retrieval was among the items stored.

The degree to which the techniques and stages defined yield identical findings when repeated is referred to as a study's reliability. The procedures used have been briefly documented and presented, which increases the repeatability of the case study. This also enables an observer to trace the development of a piece of evidence from the original research questions to the final findings of a case study by going from one section to the next (see Figure 3-1 Process of data reduction and analysis). Hopefully, the methodological procedures described above provide a "chain of evidence" and help the reader cross-reference data collection, analysis and conclusions. The next section explains the data collection process.

Another alternative framework could be that of Lincoln and Guba (1985) that by adding the characteristics of credibility, transferability, dependability, and

confirmability to complement the traditional quantitative evaluation criteria of validity and reliability, it enhanced the notion of trustworthiness (Nowell *et al.*, no date). It is straightforward to confirm several similarities between both frameworks. For example, credibility in Lincoln and Guba (1985) is identical to construct validity in Yin (1991), transferability in Lincoln and Guba (1985) is identical to external validity in Yin (1991), dependability in Lincoln and Guba (1985) is comparable to reliability in Yin (1991) and confirmability in Lincoln and Guba (1985) is identical to construct validity in Yin (1991).

3.3 Data collection

This section of the chapter explains the decisions made during the data collection process. It also explains the process of implementation and the selection of study participants. Data collection took place between October 2016 and October 2018.

3.3.1 Data collection implementation

After several months of literature review on business models, business schools, and MOOCs presented in Chapter 2, preparations for data collection began with the support of supervisors. The initial focus was on research design and methods. Several books, articles and dissertations on the topic that used qualitative methods were instrumental. The result of this phase was the research design explained in chapter 3.2. The university accepted the ethical approval to start collecting data in March 2016.

A decision was made to conduct semi-structured interviews of about one hour and to allow interviewees speak freely about their experiences with MOOCs and their views on the phenomenon. Some interview rehearsals were held to anticipate problems and to troubleshoot the audio and visual recording process. As people from different regions of the world were to be interviewed, interviews were held online and in the time zone of the interviewees.

Although the interviews were semi-structured, several questions were prepared beforehand to get the conversation going if interviewees had little to say. The

first question was about how they got into the world of MOOCs. This personal question is easy to answer and acted to break the ice, as it was assumed that participants would be eager to talk about their first experiences. After this initial question, the conversation could move on to other relevant topics related to MOOCs, business schools and business models.

The interviews were particularly rewarding. Many of the interviewees brought new perspectives and ways of looking at the phenomenon under study. The conversations were enjoyable and much was learned from this exercise in gathering information directly from those involved in the delivery of the MOOCs. It was also exciting to see the different focuses that each participant placed on different dimensions of the topic. Some focused more on their experiences as faculty, others on the business school perspective, others on MOOC participants, and others on the process of creation or delivery of MOOCs. As someone experienced in business schools, many of the ideas, experiences and concepts were familiar to me, which facilitated my understanding and the quality of the information collected in the interviews. My knowledge of the different roles in business schools allowed me to identify interesting profiles to interview. In the following tables there is a summary of the interviews done and details about individuals and institutions.

Table 3-1 Summary of interviews

Participants	32
Institutions	23
Countries	7
Faculty	22
Experts on MOOCs in online teaching	6
Managers	5
Number of pages	419
Total time	1570m

Table 3-2 Overview of interviews (individuals)

#	Individual code	Type of institution	Geography	Role in MOOC	Position category	Interview date	Duration (minutes)
1	VD	Business School	UK	MOOC professor	Faculty	05/10/2016	53'
2	HR	Business School	UK	Manager	Teaching and Learning Support/pedagogical engineer	14/10/2016	48'
3	GK	Business School	USA	MOOC professor	Faculty	28/10/2016	67'
4	MS	Business School	USA	MOOC professor	Faculty	07/04/2017	55'
5	LA	Business School	UK	MOOC professor	Faculty	11/10/2016	54'
6	TS	Business School	UK	Manager	Manager/dean/director	11/10/2016	34'
7	BO-I	Business School	Australia	Manager	Manager/dean/director	13/10/2016	52'
8	SC	University	UK	MOOC professor	Faculty	11/04/2017	30'
9	MC	University	Sweden	Staff	Teaching and Learning Support/pedagogical engineer	24/03/2017	45'
10	SC	Business School	France	Staff	Teaching and Learning Support/pedagogical engineer	24/03/2017	41'

11	JM	Business School	USA	Staff	Teaching and Learning Support/pedagogical engineer	18/07/2018	56'
12	BO-II	Business School	Australia	Manager	Manager/dean/director	03/08/2018	52'
13	RI	Business School	UK	Staff	Teaching and Learning Support/pedagogical engineer	25/07/2018	26'
14	UM	University	UK	MOOC professor	Faculty	16/08/2018	54'
15	TO	University	UK	Programme director	Programme director	16/08/2018	69'
16	JD	Business School	UK	MOOC professor	Faculty	20/08/2018	59'
17	NL	Other	France	MOOC professor	Faculty	22/08/2018	68'
18	NG	Business School	France	MOOC professor	Faculty	22/08/2018	50'
19	CM	University	Australia	MOOC professor	Faculty	23/08/2018	34'
20	KV	Business School	France	MOOC professor	Faculty	24/08/2018	36'
21	CC	University	USA	MOOC professor	Faculty	24/08/2018	42'
22	NB	University	Australia	MOOC professor	Faculty	28/08/2018	45'
23	NL	Business School	UK	MOOC professor	Faculty	28/08/2018	53'

Table 3-3 Overview of institutions

Number	Region	Institutional configuration	Number of students	Number of MOOCs and online courses
1	UK	Business School, University	+6000	9
2	Sweden	University	+4000	3
3	USA	University	+40000	115
4	UK	University	+10000	34
5	UK	University	+20000	7
6	UK	Business School, University	+4000	16
7	UK	Business School, University	+7000	10
8	UK	University	+25000	23
9	USA	Business School, University	+1000	420
10	UK	University	+10000	172
11	UK	University	+20000	12
12	UK	Business School, University	+2000	2

13	UK	Business School, University	+1000	18
14	UK	Business School, University	+6000	5
15	France	Standalone Business School	+4000	24
16	Australia	University	+40000	24
17	France	Standalone Business School	+5000	46
18	France	Business School, University	+5000	1
19	France	Professional school	+3000	2
20	Australia	Business School, University	+10000	70
21	UK	University	+30000	206
22	UK	Consultancy firm	n.a.	n.a.
23	Denmark	Business School, University	+20000	23

3.3.2. Selection of study participants

Initial screening

With the guidance of supervisors, the process of identifying potential interviewees for data collection began. The search criteria included professors and experts who had contributed to relevant MOOCs because of their experience in the field. MOOCs had to be linked to business and delivered in the context of business schools or related universities.

To find participants for the study, a plan was enacted to reach out to people involved in designing, creating and delivering MOOCs. The first steps were thus to search in Google and MOOC platforms, specifically Coursera and FutureLearn. These two platforms were the largest providers of MOOCs and previous studies have also referred to these platforms (OBHE, 2013; Porter, 2015).

Participant recruitment

The first person identified after a Google search was a professor at a Scottish University. After an email invitation, the first interview was conducted via Skype on 10 October 2016. This first interview was very useful. The content was rich and the interviewee shared many practical tips. He also referred me to a person he thought could help further with the research. These initial steps followed the snowball principle.

After the interview, the links suggested by the interviewee, which included lectures on MOOCs, online teaching, and videos, were investigated. Transcription of the interview began soon after. Several difficulties were encountered in understanding what the participant had said because of tone of voice, accent and unknown words and transcription was a very time-consuming process. Interviews are very different from written texts because there are repetitions, filler words, long sentences and other issues.

The second interview was with the contact the first interviewee had shared. This participant was responsible for online learning and shared a different perspective on MOOCs and possible future methods of online teaching.

A British business school that offered MOOCs was identified for the third interview and, through the supervisor's contacts, it was possible to contact a professor at that business school. While it soon became clear the professor who ran the MOOC did not have time for the interview, he shared the contact of the person in charge of developing MOOCs at the business school. It became evident that it would be challenging to find interviews through such personal contacts, and that it would take months to reach the required number of people. Additionally, the research plan was to obtain a broader geographical coverage and not just focus on one region or country.

After these initial interviews, I started searching online MOOC providers such as Coursera and FutureLearn for people, especially professors, who had developed or ran MOOCs at business schools. The criteria were to choose MOOCs related to business and people who had participated in more than one MOOC because of their real and practical knowledge of the subject. The focus was to find business schools with multiple MOOCs to get a better insight into their experiences. The plan was also to find people in many as different regions as possible to gain a global perspective of the phenomenon.

After finding MOOCs and individuals that met the requirements, an Excel list of suitable candidates to interview was compiled. The plan was to find as many professors as possible, assuming that some would not be available for interviews. Following that list, an online search for emails began. Emails were soon sent to prospects requesting their collaboration and explaining the study's goals and how data would be collected (the text of the introductory email can be found in Appendix 5).

Around 200 potential participants received the initial email. Around 80 replied, but some were not available for interviews, citing "lack of time, study leave, holidays" as the reasons for their refusal. Finally, around 40 prospects tentatively

agreed to participate in an interview. Around ten interviews were conducted in that period. Again, availability and scheduling issues were the main reasons why some interviews did not eventuate. Some interviewees suggested contact with other people, and through this snowball approach, another five interviews were held. Each interview gave new insights and rich data for analysis. Conversations were invariably cordial and it was apparent then that many more interviews would be needed to reach theoretical saturation, so a new search for partners of Coursera and FutureLearn was undertaken. Table 3-2 Overview of interviews (individuals) contains detailed information about study participants.

Between October 2016 and September 2018, around four hundred emails requesting interviews and appointments were sent out. Of those emails, around one hundred responses arrived, of which only forty agreed to interviews. Of those, thirty-three interviews were held. It was impossible to schedule with some potential interviewees because sometimes they did not respond to emails. Twenty-five hours and thirty-six minutes of interviews were finally recorded.

Interviews were conducted via Skype and recorded with the interviewees' consent, which was recorded at the beginning of the conversation. Some interviewees were in a different time zone, meaning interviews were conducted at night or at dawn.

The video files of the interviews are in a personal and secure folder, protected by a password, on a personal computer. The transcripts and Excel files with the contacts are also in the same protected folder.

While transcription was completed as quickly as possible while the conversation was still fresh, it was one of the most challenging tasks of the research, as it took many hours, sometimes up to eight hours for one hour of speaking time. At times, individual sentences had to be listened to several times to understand what was said.

Sometimes interviewees suggested looking for content, links, or other things they would send to supplement the research. Many suggested me to participate in their MOOCs to see how they had mastered a particular topic or question.

Why so many interviews?

In all, thirty-three interviews were conducted. The decision to finalise recruitment followed the logic of theoretical saturation. As a result, primary data collection ended when the last interviewee provided no new insights.

Typically, interviews are utilised as the primary source of data in case studies since they are an incredibly efficient technique for gathering large amounts of empirical data (Eisenhardt and Graebner, 2007). Interviews are one of the most frequently used methods in qualitative research (Mason, 2017). Therefore, as the aim was to study how specialists view their school's business model, it seemed prudent to ask for their input on this matter directly. This implies that people's views, perceptions, opinions, interpretations, experiences and interactions are significant aspects of social reality that this research seeks to investigate.

3.3.3 Collected data

First, it was compiled a large and varied data set that comprised 33 interviews with professors, experts, and MOOC contributors from various business schools and universities across the globe, totalling 419 written pages. The research was rooted in a plethora of evidence by drawing on valuable lessons from interviews and secondary data (see below Tables 3-4, 3-5 and 3-6). This provided enough knowledge to detect and make comparisons and contrasts. In the analytical procedure of Gioia (Gioia, Corley and Hamilton, 2012), constant systematic assessments were utilised within and between interviews, literature, and other data. The use of systematic comparisons of big data sets decreased interpretative bias and increased data validity. A theoretical sensibility was developed by gathering evidence in various settings, resulting in a theory that is more likely to be relevant to a larger world than a limited one (Charmaz, 2006). In this research, the goal of verification is not to “discover the truth” in the positivist sense or to collect “proof” via follow-up studies (Corbin and Strauss, 2008), but to evaluate trustworthiness throughout the investigation. The purpose of continuous data comparison was not to triangulate data to verify concepts that reflected a “reality distinct from our beliefs”, rather comparing interviews and data from other

settings, the risk of interpretative bias was decreased and results were made more robust (Charmaz, 2006; Hall, Griffiths and McKenna, 2013; Urquhart, 2013).

Second, as detailed in Section 3.4 and in the discussion of the findings in Chapter 5, an analytical method was clearly defined and the research is summarised in tables, data structures and diagrams which show how representative data is converted into codes and themes (Gioia, Corley and Hamilton, 2012).

In the next pages there are tables with details about the secondary data collected:

- Table 3-4 Secondary data collected about or received from individuals
- Table 3-5 Secondary data collected about or from schools/universities
- Table 3-6 Summary of secondary data

Table 3-4 Secondary data collected about or received from individuals

Number	Document content	Outcome	Source	File format	Pages
1-32	Individual interviewee Curriculum Vitae	To know better individuals	Online search	Web page or pdf	64
33	Business school MOOC offer page	To know MOOCs school's offer	Online search	Webpage	2
34	Business school brochure (offer and claims)	To know MOOCs school's offer	Online search	Pdf	11
35	MOOC syllabus	To know MOOCs content	Interviewee	Pdf	2
36	Business school and platform partnership information	To know the content of the partnership	Interviewee	Pdf	2
37	Business School approach to MOOCs	To know the approach to MOOCs	Online search	Web page	2
38	News about University - MOOCs growth	Details about MOOC	Online search	Web page	2
39	University digital education strategy	To know the digital strategy	Interviewee	Power point	33
40	The role of credentials in the University MOOC offer	To know the role and potential of credentials	Interviewee	Report	47
41	New credentials and careers	To know more about credentials	Interviewee	Power point	14
42	Article about a MOOC topic	To know MOOC content	Interviewee	Article	30
43	MOOCs and global diversity	To know better MOOCs	Interviewee	Power point	11
44	Article about global learning (MOOC topic)	To know better MOOCs	Online search	Web page	3
45	Economist article about online learning	To know more about online learning	Suggested by an interviewee	Pdf	7
46	Video about online teaching	Teaching online vs face-to-face	Suggested by an interviewee	Web URL	n.a.
					230

Table 3-5 Secondary data collected about or from schools/universities

Number	Document content	Outcome	Source	File format	Pages
47	Institution Annual Report 2014	To know what is said about MOOCs	Online search	Pdf	62
48	Institution Annual Report 2015	To know what is said about MOOCs	Online search	Pdf	62
49	Institution Annual Report 2016	To know what is said about MOOCs	Online search	Pdf	60
50	Institution Annual Report 2017	To know what is said about MOOCs	Online search	Pdf	59
51	Institution Strategy	To know the relation MOOCs/strategy	Online search	Pdf	7
52	Institution Organization	To know the organization better	Online search	Pdf	2
53	Institution presentation	To know the organization better	Interviewee	Pdf	38
54	Institution Facts & Figures	To know the organization better	Online search	Pdf	10
55	Detailed information about institution	To know the organization better	Online search	Pdf	35
56	Institution mission	To know the organization better	Online search	Pdf	4
57	Institution presentation	To know the organization better	Online search	Pdf	6
58	Institution full course catalogue, including MOOCs	To know the school offer	Online search	Pdf	216
59	Institution governance	To know the organization better	Online search	Pdf	4
60	Credits and recognition	To know the organization better	Online search	Pdf	14
61	Exchange program brochure	To know the role of MOOCs	Online search	pdf	28
62	MOOCs institutional presentation	To know what is said about MOOCs	Interviewee	Power Point	24
63	MOOC award	To know more about a MOOC award	Interviewee	Pdf	2

64	MOOC partnership	To know the details of the partnership	Interviewee	Pdf	2
65	MOOCs offer	To know MOOCs school's offer	Online search	Web page	3
66	Institutional brochure	To know the organization better	Interviewee	pdf	20
67	MOOCs offer	To know MOOCs school's offer	Online search	pdf	5
68	MOOCs and educational development	To know more the role of MOOCs	Online search	pdf	10
69	MOOCs and social enterprise growth	To know more the role of MOOCs	Online search	Pdf	15
70	Institutional research about MOOCs	To know more MOOCs research	Online search	Pdf	31
71	Instructions to MOOC facilitator	To know more about how MOOCs are created	Online search	Pdf	2
72	Free online offer	To know MOOCs school's offer	Online search	Web page	1
73	A strategic approach to MOOCs	To know better the relation MOOCs/strategy	Online search	Pdf	10
74	Technical facilities	To know better new educational resources	Interviewee	Pdf	56
					788

Table 3-6 Summary of secondary data

Number of pages	1018
Number of documents	74

3.4 Case study context

In the first phase of each interview, the focus was on understanding in detail why business schools introduced MOOCs and why the interviewees accepted to be part of that project. From that information, it was possible to identify the objectives of from two perspectives: institutional and individual. This analysis of objectives is essential because it allows the identification of potential impact areas at a personal and institutional level. Naturally, that initial screening of objectives did not limit the following impact analysis in the interviews. It was really a pleasure to conduct these interviews with such bright and interesting participants.

Respondents were very diverse and this diversity enriched the study (Table 3-2 Overview of interviews (individuals)). In this research, the people interviewed were professors/faculty/lecturers/managers who created, produced and oversaw the creation and distribution of MOOCs. It was possible to gain direct access to all the joy, difficulties, inspiration and experiences associated with the various stages of MOOCs planning, introduction and use. This phenomenon is something new and not always well understood. Some of the interviewed had to complete the MOOCs project beyond their strict job responsibilities and were not recognised or paid for that extra work. Understanding individual objectives and motivations were critical to bringing the research project to an end. Some of them made just one MOOC while others made several. In general, there was a notable level of pride for having produced their MOOCs and many were happy with the results.

The why, what, and how of MOOCs' adoption at institutions was the emphasis of the data collection phase. From the interviews, it was possible to understand the various dimensions of why MOOCs were introduced, whether from the perspective of the interviewed ones, their colleagues or their institution. What was done and how it was done was also studied and understood, gaining deeper knowledge of some aspects of the impact of MOOCs on individual professional lives and on the organisation of their institutions, namely in terms of the business model. As respondents were from different institutions, geographies and organisational contexts, it was interesting to note that some patterns emerged despite each context's idiosyncrasies.

Some respondents were not faculty and it was a privilege to meet some experts and managers who shared their vision of the MOOCs phenomenon. Experts naturally focused on technical issues, technology, teaching and future developments, while managers obviously had a strategic and political vision and a business model perspective to ensure the sustainability of the institution.

Accessing secondary information during data collection helped complement the interviews. Some such information was shared by interviewees themselves while some was obtained from Google internet searches and speciality sites such as Coursera, FutureLearn and Class Central. These searches made it possible to visit the websites of the institutions of origin of the interviewed, which provided relevant information regarding the institution's MOOCs, strategy and training offer. The internet searches also provided detailed information on the training and professional backgrounds of the interviewees to better understand their experiences with MOOCs. Articles or interviews by the interviewees to different media were also accessed. A summary of this type of information is provided in the following table.

Table 3-7 Summary of types of contributions from secondary data

Contributions of secondary data to research	<ul style="list-style-type: none"> - To better understand schools and interviewees - To confirm the online and MOOCs strategy of schools - To gather information about the level of institutional involvement in online teaching - To gain perspectives of interviewed regarding MOOCs - To understand structures and facilities created in schools or with partners to develop MOOCs or online teaching - To collect details about the impact of MOOCs on various stakeholders - To find the different ways schools used MOOCs - To gain a deeper understanding of concepts and ideas shared by interviewed
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Secondary data were collected before and immediately following interviews. Before, because it would allow a better general idea of the interviewee and their institution, with location, context and institutional characteristics being important to get the most out of the interview. Based on the interviewees' curricula vitae, it was possible to find out about their experience with the MOOCs, what type of MOOCs they had developed and in what areas. After the interviews, some interviewees sent documents or links to complement some parts of the interview. In other cases, it was possible to obtain clues from the interviews that facilitated further research online. This subsequent research allowed to clarify and enrich the information collected in the interviews.

Institutional information online was helpful in determining importance of MOOCs in each case. In some cases, there were references to strategic objectives relating to the introduction of MOOCs and how this was done. It was also possible to understand the offer of the business schools in question in terms of online education. In other cases, it was even possible to see the history of the MOOCs within the institutions. It was interesting to analyse how institutions are involved with MOOCs, with some having pages dedicated to MOOCs or even detailed documents, while others barely refer to them.

As mentioned before, this is a cross-sectional study in which individuals from different geographic areas were interviewed. Therefore, the geographic distribution of respondents' schools and universities in continents is shown in the following table.

Table 3-8 Individuals geographic continents

Continent	Number of interviews
Europe	25
USA	4
Australia	4

Since the business model is a diffuse and vast concept, Mark Johnson's (2010, p.24) framework allows for an organisation of concepts that will facilitate the understanding and academic contributions of the study. Furthermore, it is possible to identify from the empirical data links to various elements of the framework.

3.5 Data analysis

While there is no universally accepted nomenclature for the many types and techniques of qualitative analysis (Patton, 2002), grounded theory (Glaser and Strauss, 2009) is one defined and relevant approach to qualitative data analysis. By interpreting data, the researcher gains insight and knowledge about the topic under study. While in theory a researcher should analyse the data without regard to bias or prejudice (Glaser and Strauss, 2009), one may question whether this is possible. Since empirical data is often an artefact of interpretation (Alvesson and Kärreman, 2011) and the researcher has been involved in the previous stages, including interviews, the researcher must first form a picture of the topic under analysis.

Theoretical analysis requires that a researcher has access to a design or schema for interpreting and organising data. The grounded theory approach is more akin to inductive reasoning (Alvesson and Kärreman, 2011). Nevertheless, inductive and deductive reasoning are not mutually exclusive. When the analytical model is defined in accordance with an existing framework, deductive analysis is often used (Patton, 2002), while inductive analysis may be used when previous research has not adequately addressed the phenomenon (Elo and Kyngäs, 2008). Findings are derived inductively from the data (Patton, 2002) and move from the specific to the general, with specific examples being identified and subsequently combined to form a larger whole (Elo and Kyngäs, 2008).

The data collected was used to generate ideas and hypotheses using an inductive data analysis method. The analysis focused on the formulation and interpretation methods to develop theory-driven narratives (Walsham, 1995) and to generate an accurate picture of reality from the participants' point of view.

The findings are organised in several hierarchical abstract categories. Following a rigorous analysis of the interviews and secondary materials, following Gioia's methodology, it was possible to identify 14 theoretical categories that gather the main patterns of data analysed. These 14 categories are then aggregated into five categories that can be aggregated into two major categories. The first major category relates to the objectives for introducing MOOCs in business schools (the why), following an individual and institutional perspective. The second category relates to the leading research objectives regarding the impact of MOOCs in the business model of business schools in several categories.

3.5.1 Following the Gioia methodology

In subsequent rounds of data analysis, the study followed the methodological technique of Gioia *et al.*, (2012). Many first-order ideas discovered in the participant interviews were thus subsequently organised into numerous second-order themes. Finally, a few theoretical dimensions arose from these second-order categories.

In the first round of research, many key concepts and categories emerged from interviews and initial categories were created based on the words provided by participants. However, the initial number of categories quickly became overwhelming as more than forty categories appeared in the first round alone (i.e., first-order concepts). To make sense of all these concepts, a comparison of different categories was undertaken. This approach led to a reduction in the number of categories, which were more theoretical than the words generated by the participants. In this round, 14 theoretical subcategories (i.e., second-order themes) were identified. These included: increasing school reputation; create a new marketing tool; learning and be prepared; learning a new way of teaching; gaining new skills; teaching more people; geography and time disruption; new teaching methodologies; new offer; teaching in a new way; new options and more flexibility; teaching as a team effort; increasing reputation and reach; and advertising by providing a sample of a course or institution.

After examining participants' words and codes and the second-order theoretical themes (see Figure 3-2 Example of an interview first order coding and Figure 3-3 Example, from the database, of an interview first order codes), the focus shifted to determining whether the emergent themes point to concepts that could be used to define and explain the influence of MOOCs. An attempt was then made to integrate visually the emergent themes into theoretical dimensions (see Figure 3-4 Concepts aggregation and classification mind map). The following theoretical categories resulted from this work: institutional objectives; individual objectives; changes in the value proposition; changes in teaching; and changes in marketing (see Figure 3-6 Example of theoretical categories from data analysis and Table 3-9 Example quotes from interviews). These theoretical categories were integrated into two aggregated theoretical categories: drivers for the introduction of MOOCs in business schools and change in the business model of business schools. These overarching theoretical aspects correspond to the conceptual framework for the research are shown in Figure 4-1 Drivers for MOOCs introduction in business schools and Figure 4-3 Business schools business model change (Chapter 4) containing a detailed description of the data structure, which includes first-order ideas, second-order themes, and theoretical dimensions.

Figure 3-2 Example of an interview first order coding

to these task force because I had incredible experience in curriculum design at all sorts of levels and I was also known as one of the most technology savvy educator so I was using new technology years before others started using it. I was one of the people how was working very hard together with ##### getting moodle introduced in our universe and that kind of stuff. This task force combined teachers, learning technologists, teaching learning advisers and all sorts of different people. Some of us took part of moocs to gain proper experience. We were trying to look into how this works. We came up with a conclusion that at that moment we cannot come up with a viable business model, not because it is not possible but because there are too many unknowns and we also suggested that we should go head and start immediately developing the first mooc because in the worst case we decide later on that it is not something we want to do and then we wasted some work. However, if we don't start it by the time that we can see whether there is a business model that is viable or not, it will be too late to start and regulate for the market and that's how we were able to become a relatively early entrance in the market. So the university leadership accepted this proposal and he started to develop two moocs. The first one, was in forensic science, and that was a fantastically successful mooc and basically it is a CSI murder history, you cannot get into much more sexy topic than that. So what they did: they took a real story from the local history and they replicated that as a kind of Poirot style murder mystery which is developed in stages and they develop it embedded in the CSI lessons in the story, which was absolutely fantastic to people who took it. The first numbers were 27,000 people, so it was incredibly successful and people said that they were anxious because it was said that I don't know who the murderer was and if will be announced at this and that time and one said that he was driving on the highway, and he scheduled a stop for that, so that he can be there, and other was angry because he was in the flight and he was one hour late to find out who the murderer was and that kind of things. One big think that came out from this is that a having a sexy topic is very good. The other thing that came out from this was the importance of the storytelling.

The screenshot displays a vertical list of six posts, each attributed to 'Agostinho Abrunhosa'. Each post contains a first-order code and a reply field. The codes are: 'increase technology use', 'moocs are team work', 'learn about moocs', 'trial & learn', 'being frontrunner', and 'notoriety increase'. The interface includes icons for replies and editing on the right side of each post.

Figure 3-3 Example, from the database, of an interview first order codes

	B	C	D	E	F	G	H	I	J	K
1	Co	Num	Impact in B	Value proposi	Teachi	Market	Facult	MOOC	Change driv	Code (underline means surprising issue)
2	VD	1			x		x	x		<u>Moodification of an existing course</u>
3	VD	2	X				x	x		<u>A creative tension between administrators and teachers was created by Moocs</u>
4	VD	3								Impact in mooc platform development
5	VD	4	X	x		x		x		Deciding if moocs worth doing or not
6	VD	5	X		x					Professors working hard to introduce technology
7	VD	6	x				x	x		Professor took part in moocs to gain experience
8	VD	7	X	x				x		<u>BS struggle to find a BM for moocs because of unknowns</u>
9	VD	8			x		x		x	<u>Professors want to try before is to too late</u>
10	VD	9					x	x		Way to design moocs
11	VD	10			x	x		x		Important thing to create a good mooc: sexy topic, storytelling
12	VD	11	x					x	x	MOOC participants objectives: refreshment, see new things
13	VD	12	X		x		x		x	Professors want to do something new
14	VD	13	x		x		x			How to design content that is interesting to so different people?
15	VD	14			x		x	x		Design moocs takes time
16	VD	15			x		x	x		It's impossible to transform a classroom material into a mooc
17	VD	16	X		x		x	x		Bringing contents from moocs back to classes
18	VD	17	X		x		x			Blended classroom
19	VD	18	x			x		x		Moocs to promote school brand
20	VD	19	X			x			x	Students want something distinctive
21	VD	20	X				x			Doing interesting experiments
22	VD	21	X		x		x			Do it for the richness of the learning experience
23	VD	22	X			x		x		Students pay for doing the mooc and can have credits for future enrolment
24	VD	23	X			x			x	Marketing value
25	VD	24	X							It's a huge advertising because you give a taste
26	VD	25				x		x		Give people the opportunity to learn
27	VD	26				x				Providing high quality learning to people
28	VD	27	X			x				Creating social value
29	VD	28	X				x			Teachers fear of losing jobs
30	VD	29	X							<u>BS are making a big mistake in focusing in what companies need</u>
31	VD	30	x		x		x	x	x	There is coming a new generation of e-learning beyond the mooc
32	VD	31			x			x		<u>Moocs are fantastic for the shallows concepts</u>
33	VD	32	X		x				x	People can't pay attention too long time for something
34	VD	33	x		x		x			Human interaction keep people engaged for an hour
35	VD	34	x		x				x	The world is shifting at the moment: fewer people with deep knowledge and more with sha
36	VD	35			x			x		Mooc participants only interested in some parts/things
37	VD	36	X		x			x	x	Enriching the learning process

Figure 3-4 Concepts aggregation and classification mind map (detail)

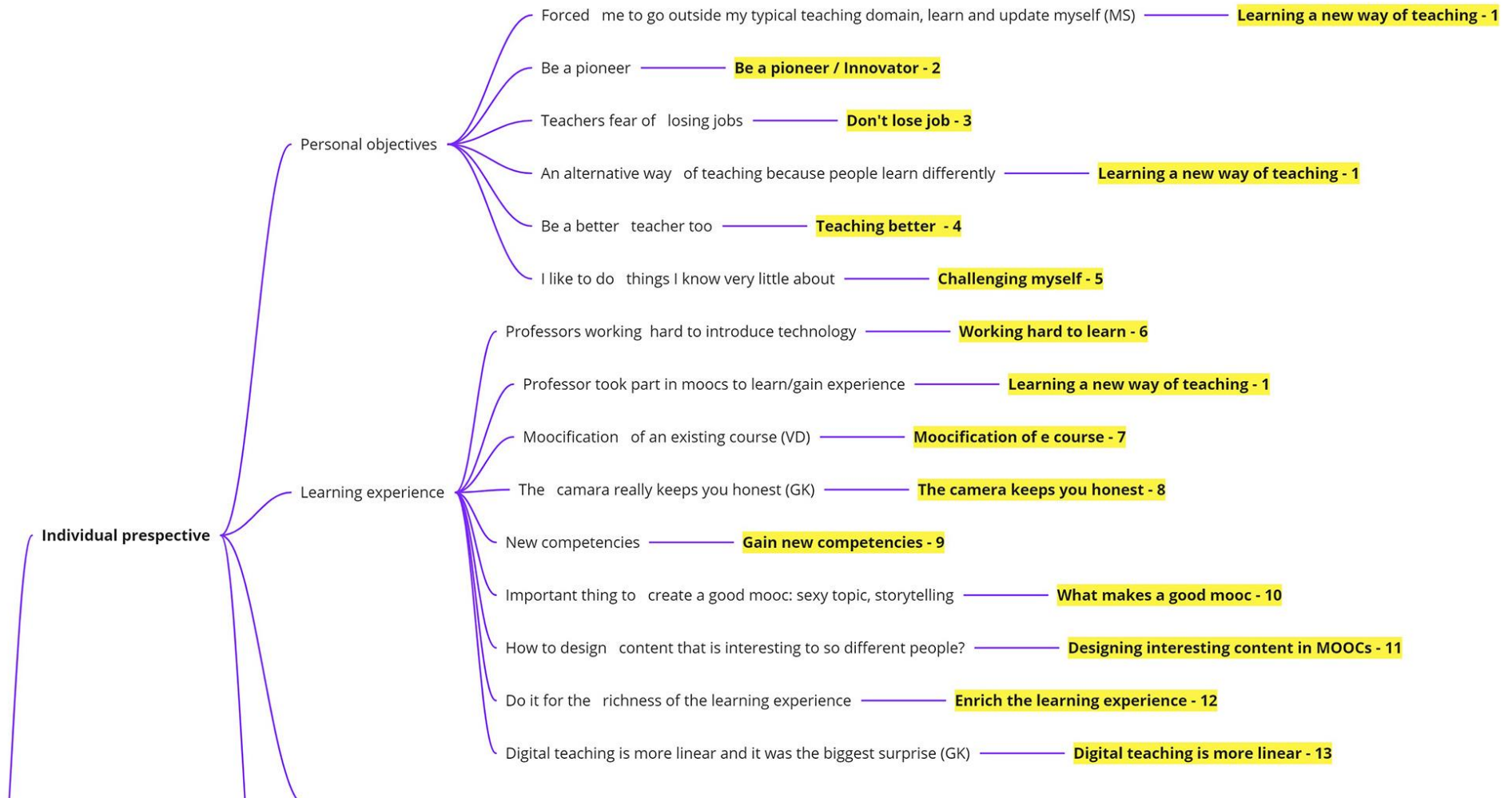


Figure 3-5 Concepts aggregation and classification mind map (big picture)

Data structure mind map



Figure 3-6 Example of theoretical categories from data analysis

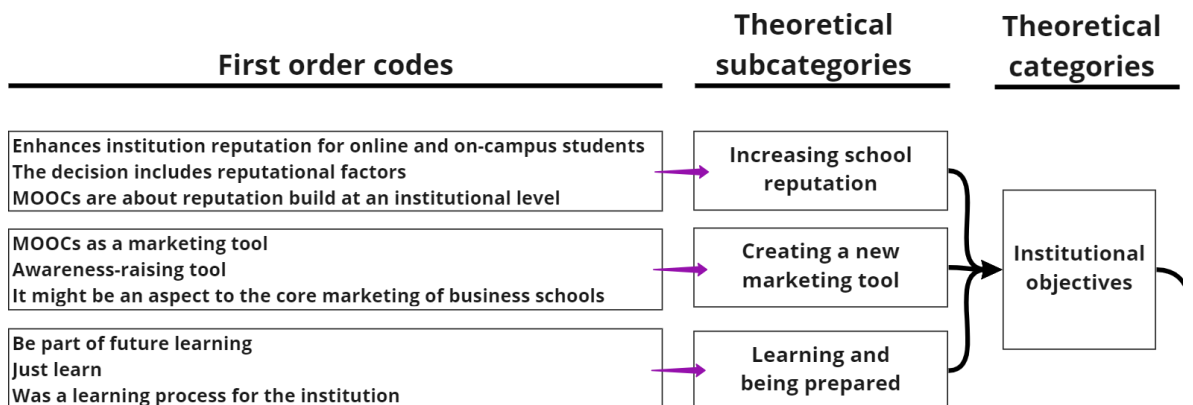


Table 3-9 Example quotes from interviews

Theoretical subcategories	Example quotes
Increasing school reputation	<p>“More than a marketing. Enhances the institution reputation for online and on-campus students. Brand recognition.” (HR, 19).</p> <p>“...that decision process includes reputational factors.” (NL, 36)</p> <p>“They were initially seen as a way of increasing the university reputation”. (LH, 3)</p> <p>“MOOCs are about reputation build at an institutional level”. (NL, 40)</p>
Creating a new marketing tool	<p>“It might be an aspect to the core marketing of business schools”. (HR, 47)</p> <p>“One of the biggest impact of MOOCs is marketing”. (SC, 32)</p> <p>“Improve the younger age group in the marketing of the MOOC”. (JD 21)</p> <p>“The most effective way of marketing university courses these days is not advertising and posters. It's to give away some of the content free, to give people some idea of the experience um, as a way of drawing people in”. (RJ, 26)</p>

Learning and being prepared	<p>“Is a learning experience”. (SC, 53)</p> <p>“Exploring the possibilities - learning”. (MC 1)</p> <p>“...learning more in the direction of online and the MOOCs and other related kinds of online deliveries are part of that package”. (JD 55)</p> <p>“The experimentation of MOOCs that's certainly something that has been incredibly beneficial through institutions”. (LC, 25)</p> <p>“Experience to experiment with the process and the cost and the challenges of developing digital content and organizing digital content. It was a learning process as well”. (PO, 7)</p>
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3.6 Research design limitations

3.6.1 Access to and accuracy of data

Because of the lack of data on business schools, particularly relating to private schools, and for reasons of confidentiality, a decision was made to use a combination of primary and secondary sources. Nevertheless, the possibility of error remained, as explained below.

It was often difficult to verify organisational choices indicated by respondents, particularly for private institutions that did not have publicly accessible information. Such a lack of accessible data was inconvenient and continued to present challenges to the research.

There was also no widely accessible data relating to business models and their development. This meant that the database used to recruit respondents possibly featured some errors, despite being compiled from various sources. Furthermore, respondents often relied on memory for details of their organisation's business model, though secondary data was used to substantiate this when feasible. Finally, since the adoption of MOOCs is still in its early stages, the information gathered from respondents may lack reflection and distance. This is consistent

with the exploratory character of the research and its emphasis on determining how organisational models evolve. Focusing on the actual implementation of MOOCs, on the other hand, may have yielded more knowledge.

3.6.2 Data collection process and categories of qualitative data

Both interviewee and researcher may exhibit bias in the course of interviews (Creswell, 2003). Because of the nature of self-reporting and memory, the interviewee's viewpoint is subjective and could be inaccurate (Podsakoff and Organ, 1986). This may have been especially significant in this research since nearly all participants were only interviewed once. The interviewees' direct involvement with the objectives and execution of MOOCs, on the other hand, was a plus in this regard. Interview bias may also arise due to an interaction between participants and researchers in this kind of study, which may affect participant involvement. Several respondents asked questions regarding the study and my own opinion. Researchers must maintain a professional position and interact with respondents without directing or influencing their answers. Additionally, researchers' viewpoints, biases and environmental elements such as gender or power imbalance must be considered (Schoenberger, 1991; McDowell, 1992). Nevertheless, because "the goal of a qualitative study is not to remove this effect, but to understand and utilise it constructively" (Maxwell, 2009:243), a research journal and research notes were used to ensure reflection throughout the study and to remain aware of sources of bias (Maxwell, 2009).

To ensure accuracy, great attention was paid to data management, particularly in terms of data reduction. The variety of qualitative data, the fact that it is not always understood from the outset (Miles and Huberman, 1994), and the need to contextualise and analyse themes and questions were all taken into consideration (Creswell, 2003). To address concerns about accuracy, efforts were made to ensure the development of rigorous case study protocols (Yin, 2009), field immersion (Marshall and Rossman, 1999) and triangulation of multiple data sources in order to produce rich, robust explanations (Denzin, 1970; Yin, 2009), and to detect outliers and harmful data (Miles and Huberman, 1994; Hussey and Hussey, 1997).

3.7 Conclusion

The aim of this chapter was to explain the research plan and the techniques employed to enact it. The purpose of the study and the research topic was addressed at the outset, after which the philosophical and paradigmatic underpinnings of the study design were discussed, emphasising the interpretative paradigm and the subjective character of the research. Following this, the study's design components were provided before an exploratory, inductive technique for acquiring deeper knowledge of business model change via respondents' experiences in business schools was outlined. The justification for this strategy was examined, along with the paradigmatic emphasis and study topic. The justification for using the case study technique and the choice to gather qualitative data from diverse sources were then reviewed. This technique was appropriate for the study's nature and backed up by data from the literature. Following this, techniques of collection were discussed, including the methods used to gather data from thirty-three semi-structured interviews with academics and experts from across the globe and the gathering of secondary data from various sources. Next, the data analysis was reviewed followed by a discussion of the study's shortcomings and how these were addressed.

The following chapter discusses the research findings as they concern the research questions, namely:

- (1) What drives the adoption of MOOCs by business schools?
- (2) How do individuals perceive their changing roles in the production and delivery of MOOCs?
- (3) To what extent do MOOCs affect the business model of the business schools?

Chapter 4 Findings

4.1 Introduction

This chapter deals with substantive findings arising from the study data, including presenting qualitative data and its analysis. Finding patterns and categories is the result of the analysis of empirical data obtained from interviews and secondary data. The drivers for business model change will be presented, followed by the findings related to individual motivations for participating in MOOCs and their reflections. The subsequent section presents findings related to institutional objectives for the introduction of MOOCs. The challenge when dealing with large amounts of data in qualitative analysis is to identify what is significant. This can be achieved by reducing the raw data according to logical criteria and then applying a methodological framework, like Gioia, which conveys the essence of the data in a visual and comprehensive way.

In the next sections quotes from interviews will be used as examples. Letters are relative to the interviewees, and numbers identify the quotations and serve as coordinates to facilitate their location in the database, giving voice to interviewees as is expected in qualitative research (Gioia, 2021). For reasons of anonymity, confidentiality and sensitivity, the names of people and institutions are not revealed. Instead, acronyms and coordinates that identify the citation in the data are used. The use of “###” replaces names. Secondary data quoted is referenced as (Sec. Data xxx) and few quotes will appear in the text for confidentiality reasons. All data is securely archived and accessible if verification is required.

4.2 Why should business schools change?

Data reveals various reasons for the need for change in business schools. Some interviewees reported factors related to the market:

“The fact is that Business Schools, throughout the world, face a lot of competition.” (SB, 1).

“MOOCs will put a lot of pressure on business schools.” (MS, 40).

“The price point of high-quality education has dropped drastically.” (GK, 14)

Others reported change factors related with technology, new life contexts and the span of attention of the typical viewer:

“Information on demand; information when you need it, where you want to learn. I want to learn when I am taking a train or when I am jogging and I want to listen to that class right now, not when you set the schedule for me. 8 to 10 on Wednesdays in the morning when I’m barely awake but when I’m jogging in the afternoon.” (MS, 1).

“The first transition was to go back to a much more lecture-style approach, even for short segments. Coursera insisted that we limit these segments to 8 to 10 minutes because that’s apparently the attention span of a typical viewer.” (MS, 4).

Several other factors stemmed from the interviews, like for example institutional structure, personal development and globalisation that will be covered later. These change driver, and others, demanded a rethinking of business schools, as stated in this quote:

“MOOCs are forcing traditional academia to pause and think about the actual context of how we can improve the learning experience.” (MS, 43)

This quote is particularly interesting because shows that MOOCs force academy to reflect about the new context and the role of schools in improving the learning experience.

The data collected and analysed suggest that MOOCs can create an exciting space for differentiation and reach in this regard and can provide a prior training experience of a school, which can be decisive in the final choice of a potential

customer/student. In addition to reaching out to potential stakeholders, it is also critical to build a reputation of quality and innovation. Here, too, MOOCs can play an important role as a new digital technology, conveying a feeling of innovation and adaptation to the current context. Evidence:

“Promote the image of the school, that we are at the forefront of innovation using nice technology to talk about our content.” (SB, 6)

MOOCs can also build an institution’s reputation by creating a presence on platforms where other leading schools and “star professors” are located. The online features of this presence allow a school's potential market to be extended to new geographies and segments that may have difficulties in carrying out executive programmes face-to-face. Evidence quote:

“I think it's good in the sense that they reach new markets, they reach new people, they can generate money or revenue, but also on professor side, they are forced to develop new skills they didn't necessarily have before.” (ML, 30).

Considering all this, various interviewees mentioned that MOOCs had potential to form a core part of business school marketing. Some evidence quotes from interviews:

“The need for really high-quality face-to-face active learning will go up with MOOCs because everyone can access MOOCs.” (GK, 49)

“The mother “was horrified at the very possibility there could be a course that her son could complete on a phone. She was horrified. The grandson was so elated that it was possible to actually do coursework on his phone and the two of them just stared at each other.” (CC, 28).

“Nowadays the attention span of students is shorter I think.” (FV, 25).

In all cases, the informants reported that technological evolution expands possibilities and makes it possible to do it more simply and economically. Managing technology and its disruptive impact on business models forms part of the training curriculum of many business schools. However, some informants shared that business schools do not always see their model as susceptible to disruption by technologies:

“It’s clearing disrupting the business but my sense is that MOOCs and their providers are going to seep the low-end of the business education market.” (MS, 34).

“It’s not disrupting our existing core business yet.” (NG, 33).

Some of the interviewee even talk about a certain myopia or not wanting to see something obvious: that technology will change the teaching landscape in business schools. Only those who are prepared will take advantage of this change. Future generations, managers and clients of business schools are increasingly digital native and have expectations about teaching in business schools, expecting them to have an increasingly advanced level of technology. Representative quote:

“Sooner or later, technology will affect education in the same way it has affected everything else.” (RJ, 1).

Some reported that such advanced technological level is visible to the outside in numerous ways, including websites, participation on social media, digital content, online content delivery platforms, online training and MOOCs. Evidence quote:

“For teaching, I think it’s inevitable that business schools change to new technologies, MOOCs being one of them.” (MML, 32).

New technological features are also increasingly important in terms of the back-office of organisations, with agile systems, automated responses and digital workflows. In other words, there is a growing need for business schools to adopt and use technologies to create, deliver and appropriate the value created for various stakeholders. Evidence quote:

“We’re only seeing the tip of the iceberg in terms of what we can and what we may be able to do with digital technologies in traditional classroom settings.” (MML, 31).

In the interviews some said that this pressure for change can also be felt at the level of the governance structures of business schools. Traditionally, central governance bodies are occupied by faculty, who may suffer from some of the same biases mentioned above, such as myopia and inertia. It is also possible to detect some tension between those who want to move faster in the use of innovations

and technology, and those who are more sceptical and reluctant to use unstable and untested technologies. Some reported that:

“There was a huge discussion and concern amongst the faculty that we helped to replace ourselves through that technology.” (SB, 14)

“A creative tension between administrators and faculty was created by MOOCs.” (VD, 2).

“Administrators cannot change the school very much because faculty run the school.” (GK, 70).

Frequently the interviews showed that MOOCs can be used for people's development and can be seen as a new way of developing skills by giving people access to more knowledge and a wider network of contacts. One interviewee said:

“It's not about technology, is about social & human contact.” (HR, 23)

This development allows people to become better professionals and people, which is a mission of business schools, as several interviewees mentioned. In other words, MOOCs are another means to achieve this end in a broader way and with fewer barriers to access.

“I want to access it anytime, anywhere, on any device.” (NG, 12)

MOOCs also make possible to develop people within an organisation, whether they are faculty members, support teams or partnership networks that allow access to new resources. The development of skills, the aggregation of project teams, the creation of new spaces, the creation of a new offer or online teaching are usually positive outcomes from the introduction of MOOCs. Evidence quote:

“From one man teaching to a team approach”. (BV-II, 11)

Together the collected data provide important insights that competition among business schools is increasingly global. Evidence quote:

“So, if you can do MOOCs in a way that enhance your reputation, I think that's about building your brand as an educational global institution that's using innovative technologies.” (NL, 37).

With the development of online and the increasing use of English as a universal language, there is an increasing demand for the most reputable international schools, as the notion of better quality and privileged access to the benefits associated with these schools is implicit, for example, in terms of knowledge and networking. This globalisation is of a piece with greater mobility. In this sense, modular or mixed formats that allow short face-to-face training courses with regular monitoring through digital channels have proliferated. Evidence quote:

“Top quality business schools changed what they are doing now in the classroom. It's not content delivery but more PhD style discussions.” (GK, 16)

The most prestigious business schools also tend to create campuses in several geographies to attract local customers, leveraging their global trusted brand. This trend implies that the market must be seen in increasingly global terms. Insofar as they are offered online and mostly in English, MOOCs would appear to be in line with these trends. Quote from one interview:

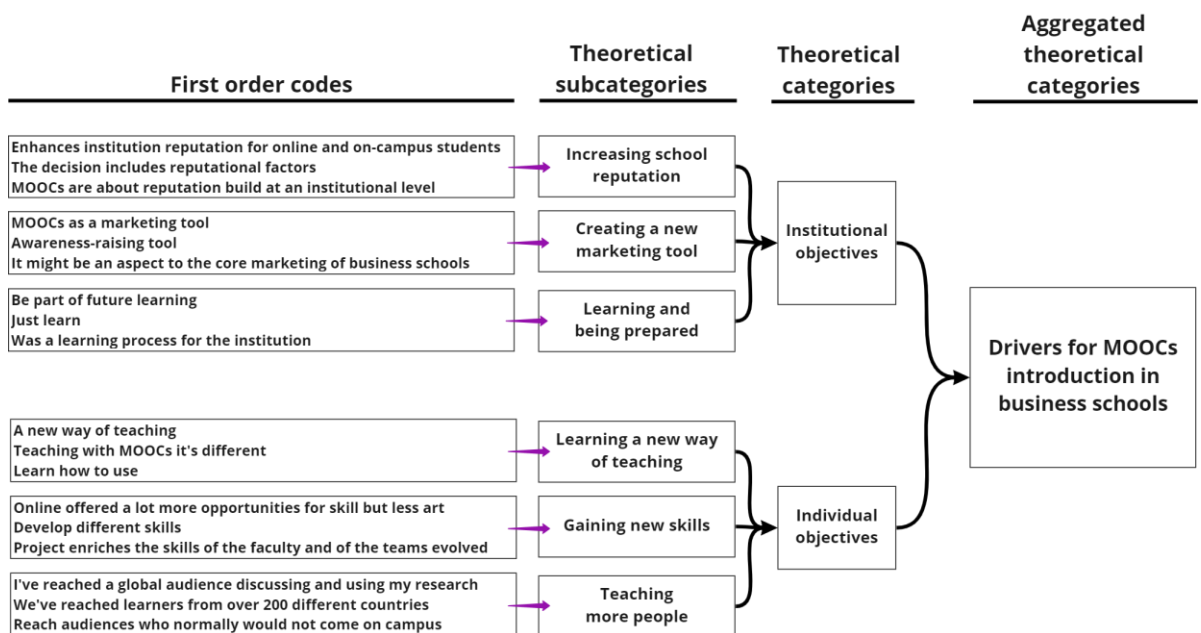
“I think the students we're getting today, that's what they want to be able to do. What appealed to me about FutureLearn, I took a FutureLearn course before I signed up to create a MOOC. The course I took, I actually became addicted to it because I had these short assignments. They were about 10 minutes long. I was completing assignments while putting gas in my car at the gas station. With my phone, I'm doing an assignment. It dawned on me that that's the way our generation Z learners are. That's the way they operate. They want to be able to do that kind of work. When you say, “Is that the future?” I think it's the generation that we have coming to college now, that's what they want.” (CC, 29).

4.3. Drivers for MOOCs introduction in business schools

4.3.1 Institutional objectives for making MOOCs

Through the perspective of individuals from the interviews and from the secondary data collected, it was sought to understand the institutional perspective on MOOCs introduction (see Figure 4-1 Drivers for MOOCs introduction in business schools). Through faculty, specialists, managers and technicians, it was possible to see the business school perspective of MOOCs. The first part will study why business schools became interested in MOOCs and what their main goals area, and what internal tensions arose from the creation of MOOCs, including difficulties finding a business model for MOOCs. The second part will look to the results obtained from the interviews and examine whether the introduction of MOOCs in business schools could represent a paradox. Finally, will described the difficulties of MOOCs introduction.

Figure 4-1 Drivers for MOOCs introduction in business schools



Why business schools did MOOCs?

According to the interviewees, business schools were motivated by several factors to develop MOOCs. Some relate to factors outside the organisation, such as marketing, reputation, an image of innovation, not being left behind, expanding online education and being more up to date with users. Other reasons relate to organisational issues such as developing staff, being better prepared for the future of education, gaining more revenue from new origins, experimenting and learning. These themes are summarised in Table 4-1 Examples and quotes of business schools motives to participate in MOOCs, and discussed further in this section. Quotes from interviews:

“I think MOOCs are good in the sense that they reach new markets, they reach new people, they can generate money or revenue, but faculty are also forced to develop new skills they didn't necessarily have before.” (MML, 30).

“...to continue building our global reputation and visibility so again, an online course contributes to that strategic purpose goal.” (KV, 19).

Table 4-1 Examples and quotes of business schools motives to participate in MOOCs

Theme	Code	Quotes
Institutional objectives	Marketing Brand Reputation	<p>“It might become an aspect in the core marketing of business schools.” (HR, 10).</p> <p>“It’s not only a marketing technique, but a way to enhance the institution’s reputation for not just online students but for our on-campus students.” (HR, 19).</p> <p>“The most effective way of marketing university courses these days is not advertising and posters. It’s to give away some of the content free, to give people some idea of the experience as a way of drawing people in.” (RJ, 26).</p> <p>“We’ve reached learners from over 200 different countries and subdivisions.” (LC, 9).</p> <p>“I think you can take MOOCs as being a much broader contribution to the educational system of a university, around reputation building and enhancing student experience.” (NL, 61).</p>
	Training staff	<p>“It’s been very transformative for staff.” (BO2 10).</p> <p>“It’s just a different way of teaching, it’s just a different method of teaching but you still need the teaching staff to teach it.” (LC, 45).</p> <p>“The digital team is still strong at the institution and now it’s being used to support on-campus learning as well as remote learning.” (NL, 31)</p> <p>“It’s a way of working with teams and helping facilitate academics who work in isolation to have different considerations in their teaching.” (LC, 22).</p> <p>“It’s about a team-based approach to designing something brand-new and looking at how an open public audience views a learning experience as opposed to a student who’s registered here in a closed environment.” (LC, 26).</p>
	Being part of future teaching	<p>“For us, part of the reason for finally doing the experiment was just saying “maybe not, but in fifty years’ time there’s no doubt that digital will be more widespread than the way we teach now and we need to head towards that.” (TS, 12).</p>

	<p>“Most people understand that it is a fundamental part of the future of education.” (MB, 12).</p> <p>“Because in the long run it will be an important factor in determining our continued survival.” (KV, 23).</p>
Experiment and Learn	<p>“The public reason is that they wanted to experience something innovative and a new way to learn.” (HR, 5).</p> <p>“The experimentation with MOOCs is certainly something that has been incredibly beneficial to institutions.” (LC, 25)</p> <p>“...moving towards digital delivery and digital certification was a steppingstone in terms of experience to experiment with the process, costs and challenges of developing and organising digital content. It was a learning process as well.” (PO, 7).</p>
Not falling behind	<p>“Something to do because other leading universities are doing it.” (HR, 5).</p> <p>“Ultimately, one of the words you said about marketing, if organisations haven't got a degree of free content that's readily available and of good quality, then actually I think they're kind of behind the game.” (SH, 17).</p>
New revenues	<p>“... an example of one of the routes to revenue generation.” (TO, a)</p> <p>“Looking to find new revenue and new profit because we have some resource shortages.” (SB, 1)</p>
Mission	<p>“We've got a social mission anyway which we have to meet and it's a way of delivering on that and because we had the infrastructure.” (MU, 12).</p> <p>“If the course is well positioned so that it doesn't contradict or overlap with something else the business school offers, whether it's face-to-face or paid in an online environment, then I think it can only be a good thing.” (SH, 15).</p> <p>“MOOCs became a way for us to fulfil that mission. Whether it's an engineering course, or a communication course, or an intercultural course, this is a way we can fulfil our mission to citizens of the world.” (CC, 6).</p>

Overall, from the data there are three reasons for MOOCs introduction that stand out: increasing the school reputation; creating a new marketing tool and learning and being prepared.

Business schools is a sector which normally requires a continuous need to attract customers, whether individuals or companies, and competition is intense. It is necessary to resort to all forms of marketing and communication that further strengthen brand and reputation, as these are critical factors in the sector. Normally business schools want to learn and be with the best. MOOCs can also convey an image of innovation and be a showcase for the school and its faculty. It is like a shop window which gives potential customers a taste of the product, to see how good the product is before committing to a purchase. Evidence quotes:

“The most effective way of marketing university courses these days is not advertising and posters. It’s to give away some of the content free, to give people some idea of the experience as a way of drawing people in” (RJ, 26).

“We had, for example, some client feedback, where they’re now able to look at what we do online for free before even engaging with us, which is obviously a real benefit.” (SH, 14).

The evidence presented thus far supports the idea that platforms allow business schools to reach a vast database of potential customers that is much larger than an individual school’s. As registration for MOOCs requires an email, this information is beneficial to keep in touch with whoever completed the MOOC and to show the school’s offers to many potential customers.

In addition to being a tool to raise awareness, MOOCs are also a way to lower barriers to entry in business education. The barrier of price, time and location are reduced. After experiencing a MOOC, even if it is not the same as face-to-face classes, there may be a desire on the part of students to go deeper and maybe complete a face-to-face programme later.

Some interviewees argued that MOOCs can act as trend barometers to see which topics are of most interest to potential students. Knowing the level of attendance on different MOOCs and the themes that arise and are discussed during MOOCs can reveal trends, learning desires or even the needs of companies. Schools and managers of MOOCs can even see how other providers of MOOCs have resolved specific issues and what avenues of investigation might be interesting to follow.

“It’s also a way to know the trends.” (JM, 22).

“Online is forcing us to be much more responsive to market trends.” (MS, 47).

Most informants agreed that many schools understand that preparing their faculty and staff for a future of online teaching is vital. Knowing how to use the internet and other technologies such as virtual reality can better prepare people for future teaching challenges. Faculty sometimes resist change and technology and entering this learning path would help to overcome those difficulties. The need to work as a team to produce MOOCs can also enhance people’s skills in that context. The use of new technologies also has created a potential to do more and better for current face-to-face participants.

The interviews and data suggested that teaching of the future will be increasingly online. The internet and technologies are increasingly entering all areas of daily life, and education is no exception. This trend is changing the way we learn. Image and video play an increasingly relevant role. New generations want to learn on their mobile, wherever and whenever they feel like it. They want to learn what interests them in each moment and get what they want instantly. These trends place pressure on more traditional forms of face-to-face teaching, which have more friction, are more time-consuming and use slower means of knowledge transmission such as reading and writing. Frequently, the challenge for business schools is to bring together the best of both worlds.

In several cases, the informants reported that business schools also need to learn. MOOCs were often introduced as a form of experimentation and a learning tool, with an understanding that institutions will be in a better position if they know how MOOCs are created and used. One of the best ways to learn is by doing, and

for this reason schools must plan, do, assess and improve the process for next cycle. This will involve many people, decisions and resources. The introduction of MOOCs can be the trigger to that broad learning that some desire.

Some interviewees argued that some schools began to produce MOOCs because others were doing it, while others, said that they want to do an experiment and learn. Competition is intense, and no one wants to be left behind or drop off the bandwagon. The offer and number of schools developing MOOCs grew significantly in recent years, including among schools with the highest reputation in the market. There was the idea that a leading business school needs to have MOOCs. Quote from interview:

“Why do MOOCs? The public reason is that they wanted to experience something innovative and a new way to learn. The private reason is because other leading universities are doing it.” (HR, 5).

The data has shown that with some incomes decreasing and costs rising, it is essential to look for new sources of revenue and some schools produce MOOCs with a view to creating new revenue streams. There has been a reduction in public support for universities and business schools, and private school do not receive public funds at all. On the other hand, costs have been rising steadily whether through people, facilities or technologies. There is thus an incessant search for new revenues, such as through selling to new customers in other geographies or other formats. MOOCs were seen as a direct way to increase revenue via certificates of completion, licensing or indirectly increasing revenue by attracting new customers or enabling distinctive and more competitive offerings.

For some, MOOCs were a path to accomplish their institutional mission. Due to their open and online nature, MOOCs allow schools to reach more people over a wider expanse. This potential aligns with the mission of some institutions to "teach the world", a social mission to educate the population and give back to society.

Several said that schools struggle to find a business model for MOOCs because there are too many uncertainties. The decision to do MOOCs is usually tricky because there are many uncertainties associated with MOOCs. It was often not clear a priori whether it was worth investing in MOOCs.

Outcomes

Overall, the findings suggest that results obtained from MOOCs vary. Many reported that the image and reputation of schools have improved, though that is difficult to measure. A significant benefit is having access to a base of people who gain close and specific knowledge of the school and could become potential clients or students. In terms of revenue increase, the increase from the sale of certificates is small and the increase in indirect revenue from enrolments in schools is also low. However, it is not easy to quantify because the impact can happen over several years and indirectly through word of mouth. Evidence quote:

“MOOCs are about reputation building at an institutional level.” (NL, 41)

One of the most visible results of the introduction of MOOCs was the increased development of skills, knowledge and contacts among staff involved in their production. The need to establish partnerships with platforms and among other colleagues within the school itself created new networks of contacts and capacities to create new digital content, such as videos, games and quizzes.

“Give people better confidence and skills.” (MU, 26).

One interviewee argued that MOOCs allow enrolment at any time, allowing MBA candidates to start at any time starting by joining the MOOC and later joining a face-to-face class. That is a smart way to secure candidates by allowing them to start their MBA when they have time available and at the pace that suits them most.

“So, if you want to start your MBA today or in February or April, you can do a self-directed MOOC. Just sign up and off you go, take as long as you like to finish the unit.” (BO, 99).

Some interviewees argued that MOOCs also made it possible to level knowledge and ensure that participants in a training programme have the same base knowledge. This was a way to monetise resources and provide introductory courses to those who need them.

“I can see areas where you can have new MOOCs, for example introductory courses to university studies. There are lots of MOOCs that are identical to courses for preparing people before they come to the University, giving them what they need for a larger course.” (MC, 99)

MOOCs made it possible to scale up teaching. Being online and capable of being complemented with face-to-face classes allowed content to reach a broader range of people without consuming the scarce resource of faculty time. This solution enabled training of more people, with lower costs and faster.

“I think the course I produced is much better than what I would have done typically, what I typically do in a traditional classroom setting. It's much more diverse. It's much richer” (KV, 11).

MOOC are a paradox in Business Schools?

Business schools are usually closed, face-to-face and expensive (Antunes and Thomas, 2007; David, David and David, 2011; Thomas and Thomas, 2012; Anjam, 2013). MOOCs are quite the opposite being open, free, online and accessible (Liyanagunawardena *et al.*, 2013; Baturay, 2015). The question thus arises of whether there is a contradiction in business schools creating MOOCs, as this would appear to go entirely against the institution's operational logic. Interviewees were often surprised by the question and had not even thought about this issue before. It seemed relevant to ask the question because it was also a way to make them think a little more about the reasons business schools introduced MOOCs.

The perspectives of the interviewees tended towards a view that there is no contradiction. For many, the introduction of MOOCs feeds the institution's logic and both models, free and closed, can coexist. MOOCs are aligned with the mission of disseminating knowledge (social responsibility), with the aim of reinforcing reputation and showing the mastery of the school and its faculty. MOOCs enable

experimentation and development of faculty in online education, which many believe will carry greater weight in the future. MOOCs make it possible to contribute to a better and more innovative image of the institutions that develop them. MOOCs also make it possible to reduce the teaching time of professors, who can thus dedicate themselves to research that will contribute to the institution's development and provide higher quality teaching. Evidence quote:

“Of course, one of, our core business is to make money based on the knowledge that we produce and research that they transform into attractive learning programs. And we want to sell those programs to our students of all sorts uh, through program fees as well as to our executive client. So that is indeed very important. But it doesn't, it doesn't end there at the business school and as a university or a Research Institute. Of course, one of our corporate social responsibilities is to invest in communities to invest to give back.” (KV, 99)

Some interviewees and secondary data showed that MOOCs are based on the widespread concept of “freemium”, allowing schools and universities to give something free in order to show and give proof of their services in the expectation that potentially interested parties will spend money on their more “traditional” offer. Other schools use MOOCs to make themselves known to younger generations and thus manage to create notoriety among those audiences who may later be potential users of their services. Evidence quote:

“Maybe one of the explanations is that what you give for free is usually fundamental, basic knowledge about the topic and if you want to go more in depth or for instance more up to date knowledge then maybe you have to pay for a training session within the school.” (AG, 74)

Several stated that the value of certificates from MOOCs is not the same as degrees from business schools or universities. With the earliest MOOCs, confusion arose around the idea of whether it would be possible to gain a degree from a top institution from home without paying anything because it was available on the internet. People quickly realised this was not true and no one has this expectation anymore. In some universities, such as land-grant universities in the US, the paradox does not arise as their mission is to teach without cost, with MOOCs providing a good vehicle for this. On the other hand, some schools are bringing their offer of free MOOCs to a close and have started to charge for them. In other

words, there is a transition from a model in which the main aim is to make people known, create some traction and create notoriety to start selling this product as a school offer, like micro-credentials promoted on school websites. Evidence quote:

“I'm looking at taking basically the content and putting it in as a micro-credential.” (CC, 19)

Some interviewees stated that MOOCs are only a tiny part of their training offer and do not compete with the broader offer that, in the end, gives access to their prestigious degrees. MOOCs also do not provide access to all the benefits of face-to-face teaching, such as social benefits and networking.

Another potential paradox is whether schools will continue to make MOOCs without any real economic gain to show for it. Developing MOOCs is expensive and platforms keep a significant percentage of participation certificates, their leading direct source of income, further reducing schools' income. So, the question that can be asked is whether the investment in MOOCs is sustainable. Evidence quotes:

“I think a lot of institutions will use MOOCs as a way just to get public awareness to generate a greater possibility to sign people up for paid courses. If they're doing it for that then I don't think there's a paradox.” (UM, 99)

“I don't I think it's a paradox, I think they are different models. But I think they can coexist. My own feeling, and this is just my own personal view, is that universities and business schools will need to become more accessible over time.” (RJ, 99).

Barriers to MOOCs adoption

In addition to knowing the reasons that lead to the introduction of MOOCs, it is also interesting to know the main barriers or difficulties facing these projects' implementation. These barriers can be of many types, such as knowledge, resources, time and institutional support. They can also be internal to the organization or external. It is helpful to know the phase where these barriers arise. If they are in an initial phase in which it is necessary to obtain sponsorship at the highest level or in the execution phase because there is a lack of technical,

financial or hierarchical support resources to get the necessary time from the people involved. It is also essential to know if the barriers stem from a fear of change or uncertainty in the results. Evidence quote:

“I find it very difficult to negotiate with my department about time, I struggled last year with time, like trying to decide the programme plus all the activities. It really was an issue. Time was difficult to manage, more than money because I had that, not much but enough.” (SC, 41).

The most frequent difficulty cited by interviewees was the scarcity of resources. MOOCs are expensive to produce, whether in terms of finances or people or time. It is not always easy to get the money needed to produce MOOCs, making it necessary to resort to donations or funding from partners interested in the project in some cases. Time, whether for faculty or staff, is always scarce, and initial estimates are often flawed. Sometimes it is not only the significant consumption of time but also the lack of appreciation of it by management. Example quote:

“We really liked the process, but we were a bit afraid that we would not find the time to do that on top of all the other activities that we had, in terms of research, teaching and so on.” (AG, 91)

“...but one of the things I find very difficult basically to negotiate with my department about time.” (SC, 41)

MOOCs were identified by some interviewees as contested projects. Evidence quote:

“There was a huge discussion and concern amongst the faculty that we helped to replace ourselves through that technology.” (SB, 14)

The uncertainty of results and the certainty of high costs created a climate of tension between advocates and detractors. The fact that they are new and innovative without a clear and tested business model, and expensive and time-consuming quickly generated doubts among decision makers. Quote:

“The faculty's big concern was really, I think, about the business model and that's challenging.” (PO, 32)

Some said that feeding a channel that might be a competitor is a high-risk strategy, with doubts as to whether the creation of MOOCs could be giving away for free what cost a lot to develop and produce. Will the existence of MOOCs reduce demand? Do the interests of the MOOC platforms have interests contrary to mine? These were some of the doubts that were raised by various interviewees. Most believe that MOOCs would not reduce demand because they are aimed at very different customer segments. On the contrary, some respondents thought that MOOCs could even increase demand for greater access to business training. However, the doubt was present and clearly stated by the informants. Evidential quote:

“I think it’s good in the sense that they reach new markets, they reach new people, they can generate money or revenue but also on professor side is that they force themselves to, um, to develop new skills that they necessarily didn’t have before.” (ML, 30)

Others said that producing MOOCs could damage the brand. Since one of the main reasons for producing MOOCs was to reinforce the brand and reputation, it is very important that quality is high. There as an evident fear that a poor-quality product or the conditions in which it was used could damage the school's image. It could create the perception of a low-value school offer. Basic or overly straightforward contents could create a perception that the school lacks depth or exclusivity. Quotes:

“The problem could the quality of the MOOCs or the online MBA, if it’s not good, the brand could be damaged.” (MU, 28)

“... there seems to be some concern that it will dilute your brand.” (JM, 20)

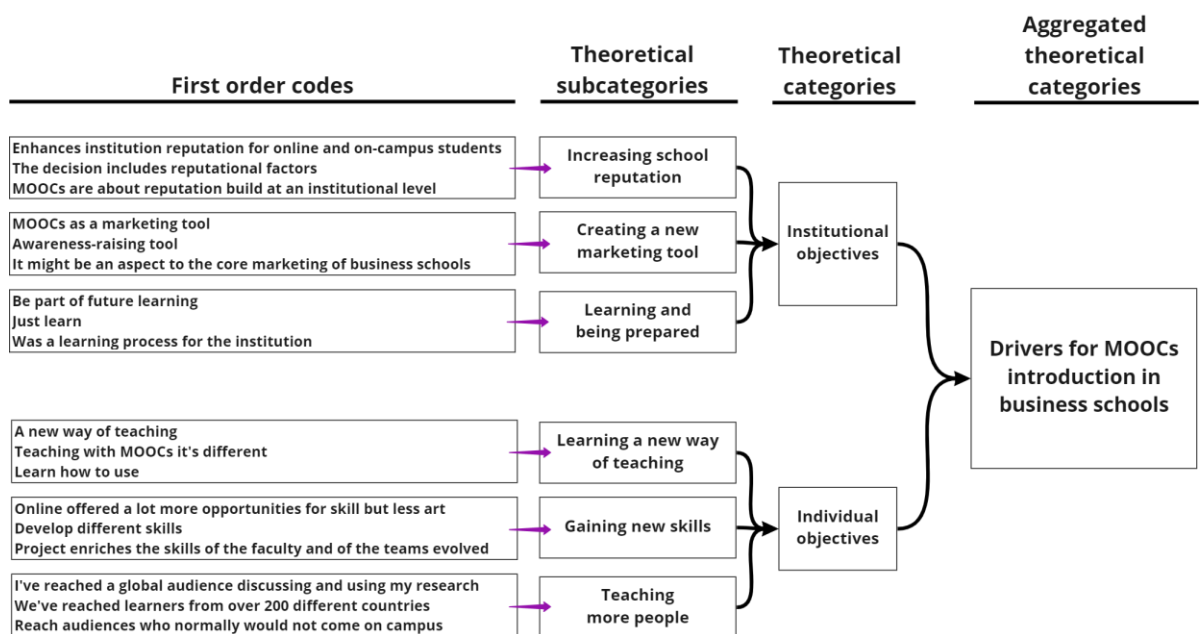
On the other side some said that it was beneficial to the brand. Examples:

“It allowed us to build a brand recognition that we didn't have before.” (NG, 19)

4.3.2 Individual objectives for making MOOCs

This section examines interviewees' personal perspectives and motivations about MOOCs (see Figure 4-1 Drivers for MOOCs introduction in business schools). The first part will start by looking at the reasons that led them to participate in their project to create a MOOC and we will then move on to the learning experience. Finally, the results and difficulties encountered will be analysed.

Figure 4-2 Drivers for MOOCs introduction in business schools



Why the interviewed did MOOCs?

Interviewed individuals variously agreed to participate in MOOCs from a perspective of personal, professional and institutional growth.

Personal goals included developing new ways of teaching that were very different from face-to-face classes. This learning process was intense because the time needed to create the MOOCs was often higher than initially estimated. Faculty had to rethink class content and course design. One of the interviewees used the expression “Moocification of an existing course” (VD, 1). This work of rethinking

contents, previously delivered in isolation, in MOOCs must be done as a team, with the contribution of many specialists in image, sound and visual effects, for example. Faculty had to be able to work together, requiring a change from prima donna to team member. This contributed to their development as faculty and gave them greater global visibility. This evolution aligned with the objectives of institutions that see MOOCs and online education as an opportunity. These themes are summarised in Table 4-2 and discussed further in this section.

“Sometimes the team must manage the professor” (BO-II, 13).

Table 4-2 Examples and quotes of individual motives to participate in MOOCs

Theme	Examples	Quotes
Personal objectives	Learning a new way of teaching	<p>“Some of us took part in MOOCs to gain proper experience.” (VD, 1).</p> <p>“I always wondered whether there was an alternative because people learn differently. I also felt intrinsically that people can teach differently too, so there's no one way of teaching.” (GK, 4).</p>
	Being a pioneer/innovator	<p>“It was an opportunity to innovate and as a group, a small group of academics responsible for research and education and entrepreneurship, we were intuitively quite an innovative entrepreneurial group.” (NL, 4).</p> <p>“If you don't sit and learn how to do it, maybe you will miss the next wave of innovation.” (AG, 38).</p>
	Teaching better	<p>“MOOCs are forcing traditional academia to pause and think: in the current context, how can we improve the learning experience.” (MS, 43).</p> <p>“I improved my teaching, but students also improved their assignments. The quality of presentations was much better this year than last year.” (SC, 21).</p>
	Keeping a job	<p>“Because I had some interest in that field and because it sounded promising as a technology to get involved with. I had an understanding where my profession and my job may go in the future, that's why I said yes.” (SB, 1).</p>
	Being part of future learning	<p>“I think that we're a part of future learning.” (HR, 20).</p> <p>“I think most people understand that it is a fundamental part of the future of education.” (MB, 12).</p> <p>“I actually think all teaching in the future will be blended.” (RJ, 48).</p>
	Teaching more people	<p>“I liked the flexibility of teaching more people with more options.” (GK, 11).</p> <p>“Reaching more people.” (DJ 42).</p>

From the interviews, three main motivations stand out: learning a new way of teaching; gaining new skills; and teaching more people that will be detailed next.

Learning a new way of teaching

“Since the cave, we have been teaching the same way.” (GK, 68)

Some expressed that the new ways of teaching forced faculty to develop new skills, such as how to present in front of a camera, to project their voices, to teach without receiving immediate feedback from those watching, and to teach in smaller sections because online attention is more difficult to guarantee. They also had to learn how to build a MOOC that would catch the attention of potential participants, with theme, title, abstract, storytelling and alumni testimonies being essential elements. Example quotes:

“The camara really keeps you honest.” (MS, 7)

“Forced me to go outside my typical teaching domain, learn and update myself.” (MS, 11)

Several stated that once registration of participants is achieved, it is necessary to have content and a storytelling dynamic that keep participants interested in the MOOC. The diversity of teaching methodologies, whether by videos, texts or presentations, should be complemented with quizzes and discussion forums to assess the learning of the content transmitted. There should also be opportunities to discuss doubts with others and share experiences and additional information that assist the learning process.

“Important thing to create a good MOOC: sexy topic and storytelling.” (VD, 10)

The general sentiment from the data was that the future promises an increased presence of online teaching. Several of the interviewees have a clear understanding that online classes will be an essential component of teaching in the future. MOOCs are an opportunity to take initial steps in this area, to learn and be better prepared to take full advantage of online and emerging

technologies. This is beneficial for teaching online classes or for using other teaching methodologies such as blended classes (with both online and face-to-face components) or flipped classrooms (which involve seeing online content first before face-to-face discussion later). As learning and skill development take time, some interviewees said it is crucial to start as soon as possible.

“The more prepared you are really, the easier it is to actually deliver.” (PO, 29)

Most informants agreed that online is a new way to teach more people. One of the biggest attractions of MOOCs among faculty is the opportunity to reach and teach many people. Due to the open nature of MOOCs, anyone can apply to participate (even if only a small number of participants finish a given course). For companies and international organisations, MOOCs can be used as complements to many different teaching methods, such as face-to-face, blended, flipped classrooms. Example:

“People are less interested to spend many, many days physically on our campus to come to do executive learning.” (KV, 15)

Some institutions use MOOCs to gain scale and reach many more people than their facilities allow. MOOCs can also reduce the operational effort required to teach many people at same time. With MOOCs, some faculty were able to reduce their teaching time and do other things like research or consultancy related with their expertise. Examples:

“MOOCs are also a way to reach people that we couldn't reach before and being known for that.” (NG, 17)

Some of those interviewed claimed they wanted to be seen as pioneers and innovators. Due to their experience, vocation, perspective on future and monitoring of trends, some of them wanted to be the first to experiment and to gain a prominent place at the forefront of change towards more online education.

“Promote the image of the school, that we are at the forefront of innovation using nice technology to talk about our content.” (SB, 6)

They wanted to learn, be recognised, and show off their work and areas of expertise. As a recent phenomenon, they saw MOOCs as an opportunity before many others joined, knowing that it would become harder to stand out later. They knew that their professional value would increase if they were successful and widely recognised (as “rock stars” in the field). In other words, their involvement in MOOCs was also an investment in themselves. Being innovative, showing initiative and being at the forefront of change allows one to be better prepared, pay more attention to innovation, and gain value in several dimensions.

Participating in MOOCs was also seen as a personal challenge. A way to force learning and be forced out of one’s comfort zone. Participants were forced to learn how to use audio, images and visual elements to transmit content without having students in front of them, to use new techniques to maintain attention and make learning happen, and to be able to memorise and synthesise content to fit within a few minutes of video.

“We set out to transform our curriculum and we ended up by transforming ourselves.” (BO, 1).

Nobody wants to be left behind. Participating in MOOCs is an opportunity to experience something of the future of education. While the impacts on education are not yet clear, technology has impacted many areas, sectors and activities of businesses and organisations, changing them profoundly. Some technologies are already used, for example, to make presentations, watch videos and make files available, but there has not yet been disruption comparable to what has taken place in industries around travel, hotels, taxis and banking. Some authors claim that MOOCs and similar technologies have the potential to put many business schools out of business, meaning that only the strongest will survive (Terwiesch and Ulrich, 2014). This motivates some of the people who contribute to MOOCs, who want to be prepared and not be left behind by technological innovation. The ones that did MOOCs have better employability, participate in innovative projects, and have a greater range of teaching tools and opportunities. With that experience, they can be better professionals.

“Professors want to try MOOCs before is to too late.” (VD, 8).

Gaining new skills

New knowledge and digital materials were often claimed to improve teaching. Participating in MOOCs allowed participants to create a library of digital materials to use in different environments, including face-to-face, online and blended classes. Participants also gained greater flexibility and the ability to respond to unforeseen events. For example, if a student does not appear in a face-to-face class, it is possible to send a pre-recorded video subsequently as a catch-up exercise. Developing MOOCs helps create a collection of materials that can help clarify student doubts and offer explanations about specific issues. Several of those interviewed said that participating in their MOOC had helped them become better faculty.

While developing new skills, materials and reputation makes faculty more valuable and better prepared for the use of online technologies, some participants feared that recording technology would potentially reduce the number of classes they were asked to teach and, therefore, their salaries, even putting their jobs at risk. Using recordings, it is possible to teach successive classes with the same digital materials, with less need for faculty, meaning some may lose their jobs. Those who have these fears also raise issues related to copyright, whether their digital materials belong only to faculty or also to their institutions. This is a relevant issue when faculty leave institutions and a school wants to continue to use their materials.

Other interviewees, however, had the opposite view, arguing that technology would make it possible to reach many more students with more and better teaching. They argue that the use of MOOCs will expand the market of potential customers, both online and in person. Easy access and the opportunity to try and see the usefulness of a course will arouse interest in more and better options, including enrolment in face-to-face courses. The growth of the potential market and of new technologies allows for more diversity in classroom materials and methodologies, improving the learning experience. MOOCs and new technologies are like books on steroids, allowing in-person classes to differentiate and genuinely enrich participants' experiences.

Teaching more people

Faculty want to be able to transmit their knowledge, research and experience to as many people as possible. Because of their openness and facilitation of global access, MOOCs are an excellent tool to reach out to more people, many of whom would not have access to these faculty for reasons of time, geography and cost. This broad reach of MOOCs has been widely reported in academic and journalistic circles. Some faculty interviewed said they had taught more people online than they could teach across their entire academic career, making MOOCs particularly attractive to many faculty. MOOCs were the perfect stage to reach out to more people and showcase research and teaching.

Some interviewees were attracted by the potential of teaching fewer classes and thus having time to do other things. Teaching the same subjects repeatedly can become monotonous, and some would like to reduce the number of face-to-face classes through MOOCs. Recording classes in a MOOC format and using it as a substitute for classes was appealing to many. With this ability, they could devote themselves to teaching only those classes where interaction or greater depth was necessary and they could devote more time to research and other relevant activities.

“What the result that we have is that now the MOOC that I made for this online degree has been adopted in other programs and increasing where typically I would have given my course in a traditional classroom format. And now because we have the MOOC, we use the MOOC.” (KV, 25).

Learning experience

The learning experience of participating in MOOCs was intense. Many reported that it took much longer to prepare than they had anticipated and that making a MOOC was very different to teaching in person. Making a MOOC required rethinking contents, their sequence, the materials and form to benefit potentially very diverse students. It is teaching without immediate feedback or interaction from students. It is being part of a team with a wide range of skills in which everyone has a role to play and in which everyone contributes to a final result. It is

necessary to continually think about enriching the learning experience for the various contexts in which students may find themselves. It is a much more linear teaching experience, without the interruptions or diversions that come up in face-to-face teaching.

“Do it for the richness of the learning experience.” (VD, 21).

“It’s difficult to get people to take you seriously, but if you do take it seriously, it can be it can an incredibly valuable and valid learning experience.” (LC, 18).

“The camera really keeps you honest.” (MS, 7).

Results achieved

All interviewees expressed satisfaction with the results their MOOCs achieved, especially regarding the high number of participants. In the early days, that number was higher because there was fewer MOOCs and the profile of participants in some cases was not as specific. Another important element of satisfaction reported by interviewees was the recognition faculty received, either in staff meetings or through messages they received. Some interviewees even mentioned participants who had completed their MOOCs before enrolling in their face-to-face course. Yet other interviewees speculated that the impact of their MOOC would only be realised in the future through the power of word of mouth.

“I think the results have been quite impressive.” (MML, 18).

“Got better results than expected.” (SC, 2).

“We were really happy with qualitative feedback that we got as well.” (AG, 32).

The experience of participating in MOOCs helps enrich the teaching experience. With new skills, experiences and technologies, faculty can enrich their activity across various teaching formats. MOOCs also allowed them to learn more about the use of flipped and blended classroom methodologies.

“The updated knowledge base and clarity of thinking and articulation helped me become a better instructor in the in-class environment.” (MS, 26).

Difficulties reported by interviewed ones

The main difficulty reported by interviewees in relation to their experience making MOOCs was that they often took much more time than anticipated. Many did not expect the process to be so demanding and different from face-to-face teaching. Unfortunately, this difficulty was not always understood by superiors, who sometimes did not value this time or who demanded that this time not be counted for academic purposes. As a result, some felt unsupported and undervalued in their efforts.

“Time has the biggest obstacle.” (AG, 91)

“It was very difficult to negotiate with my department about time.” (SC, 41)

Another difficulty was financial resources, with reported difficulties in securing adequate funding and other economic constraints impacting the number of MOOCs developed. Some interviewees reported that changes of strategy, people or other factors kept their projects from continuing, leading to some demotivation.

“People were saying these cost a lot of money and that there is no guarantee it will result in a single extra student.” (LH, 4)

“A very costly way of producing education.” (FV, 8)

Another reported source of difficulties related to technical issues. Support teams were not always up to the task and there were some incidences of having to redo certain recordings owing to a lack of quality, placing even greater demands on time. Some interviewees reported a need to outsource certain tasks that demanded more time, more coordination and additional costs because schools were not happy with the initial results and the potential harm, they could have on school reputation.

“It is fundamentally different from students sitting in a lecture, but that was one of the targets, and that's a technical challenge that means the way the learning platform is set up must be integrated with certain technical platforms. It's also an academic challenge.” (MB, 24)

Another difficulty was copyright issues, with a need to ensure that materials used are not subject to copyrights. It was necessary to do extra work to research this information and, when required, to look for alternatives without such limitations.

“With MOOCs, we had to be really cautious that everything we did not infringe on copyright.” (LH, 5)

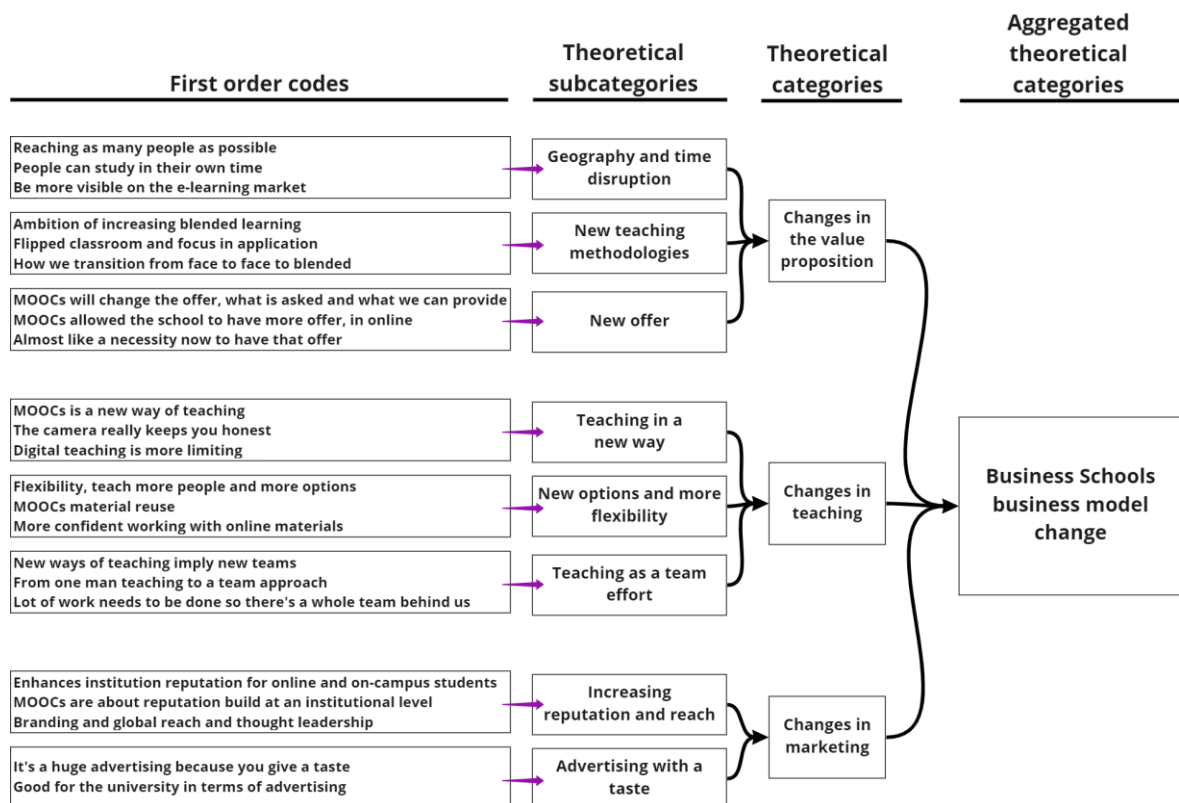
“We found there was a lot of administrative things to do around the MOOC, like taking everything through the legal department. We have agreements people have to sign, we must assure that every single link we use was genuine, all this kind of bureaucracy, which was a lot of work, making sure that everything was right and legal.” (LH)

4.4 MOOCs and the business models of business schools

This section examines the impacts of introducing MOOCs on the business models of business schools according to the framework of Johnson (2010, p.24). Based on that framework, the next sections feature a description of the elements of business schools’ business model through data (see Figure 4-3 Business schools business model change). This section is related to the previous one as some of the impacts referred to were already referenced above. The framework has four core elements: value proposition, surplus formula, key activities and key resources. These four core elements will be detailed in the next sections. Evidential quotes from interviews such as the following will be included:

“The faculty’s big concern was really, I think, about the business model and that’s challenging. Obviously, the economics of the situation mean that it’s not that easy to develop the right business model.” (PO, 32)

Figure 4-3 Business schools business model change



In addition to the business model, it is important to understand the mission of business schools, as mentioned in various interviews:

“Giving away material for free to exercise our kind of social mission” (TO, 16).

“MOOCs became a way for us to meet that mission. Whether it's an engineering course, or a communication course, or an intercultural course, this is a way we can fulfil our mission to citizens of the world.” (CC, 23).

As the main research topic is how the business school business model changes in the presence of MOOCs, it is crucial to understand the value proposition, the surplus formula, key resources and key activities and they all fit together.

4.4.1 A new value proposition

Several interviews showed that the introduction of MOOCs enhances the value proposition of business schools. This offer enables new customers in new geographic areas to be reached without the temporal and physical restrictions of in-person classes. Evidence quotes:

“MOOCs allowed the school to have more offer, online.” (JM, 17).

“Some good schools are getting screwed. They have the potential but don't act fast enough, because of some blindness of management.” (GK, 72)

MOOCs offers teaching flexibility as it is asynchronous, separating the moment of teaching from the moment of learning. It allows students to advance through a course as fast as they want without being dependent on faculty or peers. It allows many more people to be taught with the same resources and complements other teaching methodologies such as blended learning or flipped classroom. It can allow organisations to train a wider pool of people at lower costs. Evidence quotes:

“If the course is well positioned so that it doesn't contradict or overlap with something else the business school offers, whether it's face-to-face or paid in an online environment, then I think it can only be a good thing.” (SH, 15).

The new offer can bring competitive advantages. The ability of some schools to launch MOOCs can give them a competitive advantage over others that cannot. Today, potential training clients start their search processes online, and whoever has the best presence in the market is at an advantage. MOOCs can be a shop windows offering a taste of a larger product. Evidence quote:

“MOOC's online environment is not necessarily replacing what we do, it's filling a gap we couldn't fill beforehand.” (SH, 11).

This new offer also shows an expansion of the available training range, giving potential customers a more diversified choice. A presence of MOOCs also creates a perception that a school is at the forefront of innovation and has created new forms of training. As a result, some schools see MOOCs as a competitive necessity.

“With MOOCs ‘You are giving flexibility or helping people to enrol anytime, anywhere’.” (BO)

“For our incoming students who feel like they need a little bit of up-skilling in, for say, financial accounting or managerial accounting, we're able to offer that content to them from our faculty members who created the courses before they come. So that's a nice way for us to try to level the playing field before they even enrol.” (JM)

As mentioned in the literature review, the business schools' value proposition is clear: preparing participants to be better professionals and helping companies perform better. This value proposition was quite clear to the interviewees who already had a lot of experience and well understood how it was materialised in classes and in the various activities carried out by their institutions, from research to teaching and Alumni and career management. Naturally, the focus was always on individual development and learning. It was interesting to learn that interviewees felt that MOOCs brought something new and increased the value proposition to the customer.

“Our mission is to take education to the people.” (CC, 23).

Several mentioned the opportunity MOOCs gave them to continue learning and to access further training options, while others mentioned the possibility of learning at their own pace, anywhere and anytime.

“One part of the university’s mission, which we are officially entrusted with, is to spread knowledge produced within the university to the general public. That’s one part of our tasks and we wanted to explore MOOCs as one new channel for doing this.” (MC, 2).

Several mentioned generational change and that new generations want ways to learn online, combining this with an increasingly shortened attention span, which forced them to make shorter and shorter videos. Another exciting opportunity many cited was the opportunity to meet people from other companies or geographic areas with whom they shared interests expanding their network.

“If we’re going to take students’ money, we have to provide them with sufficient value for that.” (HR, 31).

For companies, too, the value of MOOCs was clear. One was the possibility of training more people at a lower cost and without the impact of absence from work. The growth in the offer to address several specific training needs was also attractive for the purposes of the value proposition. The fact that employees have access to such training allows companies to increase motivation, knowledge and performance. Evidence quote:

“MOOCs and online players will get a lot of play when companies command and say: I need this to cascade learning throughout the organization.” (MS, 35)

MOOCs can be used to discount fees and thus make a course offer more attractive, with some schools using participation in MOOCs to reduce entry fees for face-to-face training. The value of the MOOC in such cases is thus no longer exclusively its content or the possibility of obtaining a certificate of completion, but rather it becomes a kind of facilitator with financial benefits for entering a particular school.

“...for example, offer 10 credits (a small amount) of the first year of degree programmes can be taken through a series of short MOOCs.” (LH, 15).

MOOCs can enrich the student experience by offering flexibility between on-site courses and online courses, according to interests and availability.

“A flexible study programme can attract people and MOOCs can be a significant part of that.” (LH, 17)

“MOOCs ‘...enrich their learning experience and kind of shows how great our career service is to students who might want to come here’.” (LC, 1)

“...there is a career service for all of our students... who can see what great career advice they're going to get when they come here, but they're also, you know, a great resource for our own campus and distance learning students.” (LC, 2).

Offering MOOCs is especially useful for isolated students. Each student is a unique learner and with democratised access to knowledge and information, isolated learning is greatly facilitated. MOOCs can play an essential role when the learning path is basically an individual endeavour. They can also be useful to complement in-person classes to review content, test knowledge and contact other participants who may have similar interests in other geographies.

“Allow the students to learn at an independent, self-driven pace.” (MS, 16)

“What we try and do is package that content as a sort of self-standing educational experience that's worth doing.” (TS, 11)

MOOCs may be of interest to business school alumni insofar as they strengthen the connection with the school and provide access to a set of benefits for being an Alumni. This concept is also in line with lifelong learning, which is a relevant topic nowadays.

“That course was free for them and they could earn a certificate if they wanted to. So, we used it as sort of an alumni benefit.” (JM, 12)

“With that course and it was free for them and they could earn a certificate if they wanted to. So, we used it as sort of an alumni benefit.” (JM, 12)

With the rapid development of knowledge, continuous updating becomes necessary, and MOOCs can be handy in this sense. In addition, the enhanced connection between alumni and the school promotes recommendation and attendance of other courses. Finally, this can also facilitate donations as alumni also benefit from applying these amounts for the training they receive.

“50,000 people do that and suddenly, it shifts the focus. It's fine. It's very good for them, individually, professionally. It also has benefits for the institution, which then reflects on the students and alumni.” (HR, 33)

“You know, the very best cases of this are places like Stanford and Harvard where simply, you know, being in that network, knowing those students, knowing that faculty at a personal level, it's a sales point for the business schools and they capitalise on it aggressively.” (FV, 36)

Students want something distinctive and online. MOOCs can offer something different and in line with learning desires at any moment. In addition to deciding their pace of learning, it is also possible to define a path for carrying out various MOOCs following the evolution intended. It is possible to adapt learning to the availability of time and interests at each moment.

“MOOCs will change the offer, what is demanded and what we can provide.” (HR, 6)

In many cases, the introduction of MOOCs prepared schools to increase their offer. In some interviews, it was mentioned that creating teams and resources to produce MOOCs allowed the identification, organisation and availability of new offers. As a result, MOOCs enabled taking advantage of capabilities, digital assets and synergies between various activities and resources, enhancing the offer and creating new sources of income for schools that otherwise would not be possible.

“The institution's capacity to do online learning was then utilised to develop a new master's level programme.” (NL, 30)

4.4.2 New key resources

From the interviews was clear that the introduction of MOOCs in business schools and universities implies the existence of new key resources to support this new value proposition. These resources are of different types and importance, ranging from people to facilities, equipment and digital assets. The existence of these resources can also contribute to the traditional business model of business schools. Some of these resources might already exist, while others are created from scratch.

“We developed ### in particular, which is the factory, the MOOC factory if you want, and so while we achieve those results I mentioned before, you have to know that you force the ### to be really seen as best in class, let's say, a laboratory for technological innovation and new ways of teaching.” (NG, 1)

The creation of multidisciplinary teams is central to online education. Integrating faculty in teams with very diverse skills such as project management, content design, and customer experience enables the creation of new offers or the integration of existing offers in new ways, increasing the flexibility of teaching and customising it.

“MOOCs create a new organisational arrangement, new teams around this idea of MOOCs.” (JD, 39)

“Definitely, the team has gained a lot of new capabilities.” (NL, 22)

Digital assets are of increasing importance. Having the ability to create content that can be used in different times and contexts increases the availability of school materials.

“The project enriches the skills of the faculty and of the teams involved.” (SB, 11)

Their digital existence facilitates access, compilation, use and sharing. Some interviewees said that they started to use content created within the scope of MOOCs in the classroom, giving new uses to digital assets by, for example, playing MOOC videos on campus TVs to promote the school, the online offer and its faculty. Thanks to their dematerialised nature, these resources are very malleable. Through licensing, it is also possible to obtain new sources of revenue.

“There was also opportunity to have resources internally, like people who were trained and hired to assist faculty and researchers to transform ideas and projects into an actual MOOC product.” (AG, 4)

“Part of it is also creating the supporting infrastructure around the video segments too. Creating surveys, ways to assess learning, ways to interact with learners themselves, and create opportunities for interaction during the work. Essentially, to create these proxies of in-classroom experiences in a virtual environment. That was not an easy task.” (MS, 6)

The introduction of MOOCs led some schools to invest in infrastructure and equipment. The production of quality videos requires specific physical, technical and human resources that some schools have invested in. Dedicated rooms were created for recording, editing and sound design. It was necessary to acquire equipment and have the technical capabilities to operate these technologies. Some of these investments started to be used for a wide range of purposes and not just for MOOCs, including as streaming laboratories for conferences or spaces for recording promotional videos. In some cases, the use of such facilities for MOOCs was not even the main one. Some of this infrastructure was also accessible for students to use for a wide range of purposes. The creation of these spaces and their advertising also had uses for marketing and reputation building as innovative schools.

“The digital team is still strong at the institution and is now being used to support on-campus learning as well as remote learning.” (NL, 31)

“I find that for most audiences, having a variety of support is really useful to keep people engaged.” (MS, 32)

These key resources can make them catalysts for other innovations, technologies, services and offers. For example, their presence makes it easier to introduce remote classes because the infrastructure enables this. It facilitates interviews with guests, star faculty and managers visiting the school and helps introduce other technologies such as 3D printers (to build prototypes) or robots (to better understand automatization). MOOC-related infrastructure also allows for workshops to be held to demonstrate technological capabilities to students, visitors and other stakeholders and they can enhance spaces with powerful workstations that allow for simulations and investigations that require high computational capacity.

Technology alone is not enough for an optimal education experience, which invariably requires good human resources. It is necessary to hire and train people to take advantage of state-of-the-art equipment. For example, to teach online classes, a teacher is not enough. It is necessary to have human, communications, hardware and software support to establish the connection and ensure an excellent experience for everyone in terms of image and sound. This makes

technicians a key resource for schools that want to engage with online and technology. Unfortunately, the basic training of these people is often insufficient as they require multifaceted skills in computing, sound, video, multimedia, communications and hardware, which are often taught in different courses.

4.4.3 New key activities

The creation of MOOCs implies new key activities. Teaching via MOOCs requires new tasks of planning and content design, execution, manipulation and distribution, with faculty, designers, educators and technicians all sharing responsibility for these activities. Faculty must build on their knowledge and materials and design new programmes, sequences, texts and presentations. Other specialists, such as pedagogical specialists, content designers, technicians, image directors, can also contribute to the production of MOOCs.

“This task force combined faculty, learning technologists, learning advisers and all sorts of different people.” (VD, 1)

“The project enriches the skills of the faculty and of the teams involved.” (SB, 11)

After production, it is necessary to upload the MOOC on the corresponding platform where students will undertake their training. Sometimes it is necessary to follow the forum and participate in discussions to improve the experience and engagement of those on the course.

“So, in the same way that you have a main lecturer, main academic, and then you have seminar leaders, we have main academics online, and we have, if you want, assistant lecturers whose job is to be more frequently in most discussion and review comment forums to make sure the students are, first of all, behaving in the site forums.” (MB, 31)

After some time, it is necessary to re-evaluate and potentially update the MOOC. After a few runs, it is customary to assess whether a MOOC is still current and to update it, when necessary, with new content to remain valid for users. Once produced, it is frequent that a MOOC runs several times to repay the investment.

It is also necessary to gather resources for MOOCs. As reported before, MOOCs can be very demanding in terms of time and money for those who create them. A continuous effort is thus required to obtain these resources and faculty should be encouraged to do MOOCs and supported by their departments. It is also necessary to guarantee the funding, either with own funds or through donations or partnerships that make it possible to gather the required resources.

“We had the money to do the first MOOCs and we quickly setup 5-6.” (LH, 1)

It is also necessary to market MOOCs and schools actively seek to showcase their offerings in this area to reach more people and businesses, attracting them to their MOOCs. MOOCs often form part of a school's marketing and communication plan or their specific online offering.

“Strengthening the university brand. International branding is a motivating factor for many universities working with open online education, and the Coursera platform is continuously implementing new functionality to increase and measure the branding-related institutional value of a partnership.” (Sec.Data, 1)

It is necessary to continually assess the return on investment of MOOCs and ensure management support for their continuity. The person responsible for the project must continuously monitor progress and ensure that established objectives are met. It is crucial to have support at the highest level of the organisation and to ensure that the results achieved are known and understood. It is often necessary to be creative to maintain funding and institutional support, especially when results fall short of what was originally intended. Must do internal marketing to reduce resistance. These tasks are like those of other projects. However, in online education, particularly in MOOCs, the positions are sometimes extreme, and it is necessary to manage those tensions carefully.

“MOOCs might be an aspect of the core marketing of business schools.” (HR, 10)

“MOOCs are not only a marketing technique, but are currently seen as enhancing the institution's reputation, not just for online students but for our on-campus students.” (HR, 19)

4.4.4. Profit formula

The profit formula of MOOCs (that is, how to make a profit on the investment made in their MOOCs) was a concern for all interviewees. This was especially the case as there is no well-established business model blueprint to monetise MOOCs. Several mentioned the revenue associated with certificates, but that in general it was insufficient compared to the costs of the MOOCs. So, the general idea is to offer MOOCs as a marketing tool to reach more and more people, effectively making revenues indirect. When potential clients get to know a school and experience its style of online training, they may become future clients of the school in a more substantial way. Another possible advantage identified was being able to sell training to those located far away and unable to take face-to-face classes. In this respect, clients could become a new source of income. Some also referred to the use of sponsors to fund MOOCs in exchange for visibility and exposure.

“What they said to us would be, first, that they are looking to create new revenue and profit because we have some resource shortages. Developing digital products and online products would be one way to tap into revenues.” (SB, 2)

“So even with government funding, business schools get very little funding from the public sector, so our only source of income is revenue, tuition or alumni support, which is tuition in the future.” (GK, 40)

4.4.5 A new way of teaching

Many of the schools and individuals that developed MOOCs learned a new way of teaching. All respondents reported that participation in MOOCs allowed them to learn a way of teaching that was substantially different from the traditional method.

“Most of the learning came from the update of my based knowledge and thinking deeply about topics I teach.” (MS, 24)

The form, the techniques used, the absence of student interaction, the continuous improvement needed and distinct ways of assessment are examples of dimensions in which online teaching differs from face-to-face teaching.

“Very different approach to develop a class.” (HR, 21)

“MOOCs are totally different for a conventional university.” (UM, 8)

“Teaching with MOOCs is different. It demands new ways of teaching, of course.” (NL, 46)

Speaking to a camera was something new for most faculty, and not always easy to master. The sequencing of what they have to say and how they want to say it creates difficulties.

“...requires a very different way of conceiving the content than when you're just creating a university lecture.” (RJ, 8)

Some faculty have an aversion to cameras and feel quite uncomfortable. Schools do not always have adequate infrastructure for recording, which leads to video of poor quality or potentially makes it necessary to make several recordings to obtain a usable sequence. This way of teaching is much more impersonal and makes the task harder for faculty.

“I think the fact that you can switch on and off very easily in a MOOC is very different than the classroom. (AG, 86)

“It's always good to try to stay up to date and learn about the new ways to teach. MOOCs are only part of that. It's only one of the new aspects. It's not the single best solution to teaching.” (AG, 52)

MOOCs enable flipped or inverted classroom methodology, allowing faculty to increase their range of teaching options by mixing face-to-face classes with content available online. This allows them to take full advantage of each of the teaching contexts.

“For example, our course redesign initiative where we're helping faculty to take a traditional lecture-based class and transform it into a flipped or blended learning type class.” (CC, 11)

Online classes can be beneficial for the transmission and levelling of knowledge between all class participants in advance. The fact that contents can be viewed several times allows doubts to be clarified and topics revisited. Face-to-face classes can then be used for discussing themes, clarifying doubts, and developing communication and persuasion skills, achieving a better result.

“I’d say some of my colleagues are enthusiastic about creating this blended course. This idea of using online components as a way to take small lecture components out of the class altogether, give it up front and essentially run with a complete flipped classroom when you teach.” (MS, 1)

MOOCs enable blended classroom techniques, allowing faculty to choose the best format depending on the type of knowledge to transmit and the skills to develop. In some circumstances, one is preferable to the other. This gives greater flexibility to faculty and students, with significant time-saving potential for both. Naturally, the precise mix between the two formats must be assessed continuously by the teacher and the results obtained can follow the learning curve of the process.

“I think looking at digital and MOOCs is about augmenting, allowing students to use quality, face-to-face time for a different purpose, not to acquire knowledge, but to maybe test their understanding to develop new knowledge, to co-create new knowledge that you couldn’t share in MOOC format.” (NL, 47)

Teaching through MOOCs requires a large team. Traditionally, faculty have great freedom of action to guide their classes according to content and planning with the school and respective academic heads.

“Sometimes the team must manage the teacher” (BO-II, 13)

When the teacher closes the classroom door, he or she is responsible for how the class is conducted, how interactions are managed, and how to respond to the various situations that arise in the classroom. It is usually a “one-man show”. MOOCs present a totally different situation insofar as the teacher is just another element of the team (albeit a very important element) that must create all the contents of the MOOC, process them and distribute them and oversee the course online. The teacher must coordinate with the team regarding design, content definition, recordings, visualisation, verification and implementation. Teaching

via MOOCs is the work of a large team, and it can also involve several external service providers.

“New ways of teaching imply new teams.” (JM, 7)

“So rather than me being the sole creator and producer of everything, all of a sudden you become part of a team, because for all these new slides that needed to be created, I had a teaching assistant.” (KV, 28)

Teaching through MOOCs requires extensive use of the video format. These videos must be short, and the trend is for them to be shorter and shorter.

“Yes, because nowadays the attention span of students is shorter, I think, and it seems to be shorter every day.” (FV, 25)

People's attention span is increasingly reduced, meaning the window of opportunity to get a message across is shorter. This represented a great challenge for faculty who typically have difficulty synthesising their extensive knowledge in limited timeframes. That was one of the most mentioned aspects in interviews, and for some, a great challenge, forcing them to structure their ideas in another way and often to include more video editing to include images or diagrams. Faculty had to subdivide more complex concepts into simpler ones that could be conveyed in a few minutes.

“I think actually all teaching in the future will be blended.” (RJ, 48)

“There's so much happening in business teaching that no one is teaching the stuff they taught five years ago. So, change is going on all the time.” (FV, 32)

“Research that is new and original can offer something different to the teaching part of the business school.” (GK, 44)

4.4.6 New opportunities for research

Research is central to the activity of some business schools. It is an endeavour that some schools use to differentiate themselves from the competition because it allows them to teach the most current and relevant material. Research also adds to an institution's prestige and to the reputation of the faculty and school.

This work is recognised through awards, publishing in specialised and popular magazines, appearing in the media and speaking at events.

“Only top research universities will survive.” (GK, 32)

“The primary function of the university is research and if you stop research and are forced to chase only teaching revenue, you can't provide the best high-quality education.” (GK, 40)

At the level of certifications and rankings, research carried out by faculty can play a central role (Kaplan, 2014). This work can be basic or applied and can be done in-house or outsourced and can involve writing peer-reviewed articles, obtaining academic degrees, writing case studies, opinion articles, questionnaires or undertaking data analysis. Some argue that research should be the primary function of business schools, as this is the only way for them to differentiate and sustain themselves in terms of the future (Huff and Huff, 2001).

“Business schools that will disappear are those which don't do research, which are not committed to deeper multidisciplinary issues, which are not committed to deeper knowledge creation and sharing.” (GK, 51)

Some authors say that deep, rigorous and relevant research is required to make the most relevant knowledge available to students and to apply the best methods in skills development (Vazquez Sampere, 2013). From a narrow perspective of knowledge transfer, teaching is something in which faculty can be less relevant, with such knowledge transmission possible through many other channels today, such as books, videos or MOOCs.

“Teaching for many research institutions is a burden.” (HR, 13)

“Putting research and teaching in the same space is the best solution because one feeds the other's needs.” (GK, 42)

“Some good schools are getting screwed. They have the potential but don't act fast enough, because of some blindness on the part of management.” (GK, 72).

4.4.7 Impact of the new way of teaching in traditional teaching

One of the objectives of this research was to determine whether faculty changed their method of teaching after contributing to a MOOC. Answers varied, ranging from those who claimed they did not change anything to those who started teaching differently.

“Top quality business schools changed what they are doing now in the classroom. It's not content delivery but more PhD style discussions.” (GK, 16)

As the online format is so different face-to-face teaching, some interviewees did not change the way they teach in person. Face-to-face teaching is much more interactive, dynamic and unpredictable, which forces the teacher to use distinct teaching methodologies and conduct very flexible classes, which is very distinct from asynchronous online classes. In-person classes are more about debate and sharing ideas, concepts and experiences through interaction, the teacher's goals and the flow of the class. Although they may not have changed their manner of in-person teaching after contributing to a MOOC, many faculty claim to have more materials (e.g., videos, diagrams and slides) after MOOCs to use in classes, enriching them or achieving greater flexibility.

“No. As I mentioned earlier, it's a different audience with different requirements, so no.” (PO, 1)

For other faculty interviewed, the fruits of their experience with MOOCs changed their whole method of teaching. They started to teach in shorter and more watertight blocks of knowledge and used much more visual support, such as videos or presentations with better or modern design.

“I think I changed a little bit the way I'm teaching because of the MOOC.” (NL, 49)

Some professors began to use flipped classrooms more often, transmitting knowledge and concepts more online and reserving in-person classes for deeper exploration of themes and creating more significant interaction and discussion among students, thus taking learning to another level. Still others began to pay

more attention to how younger generations learn and to create mechanisms to keep them focused, such as surveys during classes, practical exercises and online simulations.

“I think I like this experience and maybe it helped me improve my public speaking skills, maybe not only in the classroom but also in conferences or in front of a large audiences. I think the process of being filmed and editing videos of yourself and seeing yourself, I guess it's a way to step out of your comfort zone and to improve your awareness of body language.” (AG, 1)

“So, having video cases in a bag that I use in the classroom means, for example, in my teaching last year, I had 100 students, and instead of inviting entrepreneurs in I could use the video cases and then occasionally invite an entrepreneur in. So, I reduce my risk of not delivering my module correctly. So, yes, it has changed my teaching.” (NL, 1)

4.4.8 New revenue streams

Interviewees reported that the introduction of MOOCs creates new revenue streams for their school. Those who attend MOOCs can often obtain a certificate that attests to their successful completion of the course. This is usually paid for by the student and thus generates revenue. In some schools, these certificates can be used for discounts on fees or for credits that can be used to enter business education programmes. Another source of revenue is content licensing, which also allows for revenue generation. Sponsorships are yet another source of income associated with MOOCs.

“We licensed some of our content.” (JM, 19)

“It started because the (school) obtained a large donation from a company.” (MU, 1)

One growing trend related with MOOCs is micro-credentials: a way for institutions to attest to the capabilities a student has achieved through a programme (Acree, 2016). Micro-credentials have some similarities in delivery and structure with MOOCs and can be alternative sources of revenue, not least because they do not need to be made available through a platform and can be made available directly by institutions on their website or platforms. Various studies have emerged that seek to assess the value these micro-credentials can have for employers. Schools

that have created MOOCs are more prepared to start offering micro-credential courses (Gauthier, 2020).

“Any business school that is not investing in this digital micro-credential environment does not deserve to be called a business school.” (BO, 2)

Some companies are also looking at MOOCs as an opportunity. MOOCs have some attractiveness for companies looking to pass on knowledge to their employees. They are a simple and inexpensive way to train many people without disturbing the company's activity too much. While there is an awareness that MOOCs are not the same as face-to-face classes at a business school, they are something to consider. Some companies accept that business schools include MOOCs in their customised offer in exchange for lowering their per unit training costs. MOOCs can also give scale to training and large companies can teach many more people in a shorter period if they can mix face-to-face training with MOOCs.

“The other possibility is that I believe there are opportunities for partnerships between business schools and these MOOC providers, in terms of taking what we do in the physical class environment, merging it with digital, and using it to scale learning. To scale it to help organisations quickly cascade that learning throughout their companies.” (MS, 36)

The size of revenues generated by such initiatives was not disclosed for reasons of confidentiality. However, direct revenues seem to be very low from the general tenor of the conversations and information I gathered. The notion that MOOCs can generate indirect income later is even more challenging to quantify, not least because it is spread over time, and there are often no reliable mechanisms in place to allow this measurement to be carried out.

4.4.9 MOOCs as a threat to business schools

Some interviewees spoke about whether MOOCs could be a threat to business schools and offered a variety of opinions. Some thought they could constitute a threat due to the simple fact that there are too many business schools in the world. The most threatened schools are those that only teach and are not of high quality. Some interviewees commented that creating MOOCs could possibly pose a risk to schools through brand damage, while yet others claimed that MOOCs are

not a threat as they focus on very different market segments and, on the contrary, can even serve to widen the potential market.

“I don't think that the school's status is a threat to their actual degrees and diplomas.” (AG, 70)

“The schools that are not so on top of this can really be threatened because they might not have the technology or the money to put that business model in to action.” (GK, 20)

Some also claimed that MOOCs can be an opportunity for schools to find new ways to earn income from the resources they already have, either through a new online offer or by increasing their teaching capacity using digital solutions.

“The online MOOC environment is not necessarily replacing what we do, it's filling a gap we couldn't fill beforehand.” (SH, 11)

“...if the course is well positioned so that it doesn't contradict or overlap with something else the business school offers, whether that's face-to-face or paid in an online environment, then I think it can only be a good thing.” (SH, 15)

Indeed, not creating MOOCs or offering content online can also be a threat. Schools that lack this capability may be seen as less innovative or less able to follow significant trends in the sector, possibly making them appear outdated or unable to adapt.

4.4.10 Innovation and future

Teaching in business schools is sometimes accused of inflexibility. As mentioned in the literature review, it is said that teaching today is similar to what was done in caves and that schools write and teach a lot about disruption, but do not practice it. Participation in MOOCs is a way for schools to show their innovative capacity and even to do something paradoxical, that goes against their core institutional logic.

“We want to continue to show that we are at the forefront of doing this.” (KV, 17)

With MOOCs schools can show that they are up to date, that they can do different things and have faculty capable of teaching online. This image of online innovation is also crucial to reinforce the connection with the school alumni, current students and potential clients. Being present on global online platforms where top schools and universities are located shows that they belong to this group.

“Because in the long run it will be an important factor in determining our continued survival.” (KV, 23)

One of the goals for introducing MOOCs relates to preparing for the future. There is some consensus that the future of education will feature a more substantial online component. Not so much a replacement of in-person classes for online ones as a way to complement or enhance new teaching formats. This greater capacity of faculty and schools is also reflected in greater flexibility and adaptability to change. These qualities in particular were crucial for successfully dealing with the impact of covid-19 when many countries entered lockdown and the only way to teach was online. Most interviewees agreed that the future of education will feature more technology and appear more heavily online.

“A creative tension between administrators and faculty was created by MOOCs.” (VD, 2)

“Administrators cannot change the school very much because faculty run the school.” (GK, 70)

While the investment payoff may not be immediate, it is essential to prepare for the future. Recent disruptions from technologies, changing attitudes among younger generations and a fear of being left behind have led to a rethink of the future and a desire to be more prepared. As capacitation of people, infrastructure and resources takes time, it is important to start as early as possible, even if there are risks and the business model of MOOCs is not entirely evident.

“The faculty's big concern was really, I think, about the MOOCs business model and that's challenging.” (PO, 32)

4.4.11 Negative and positive impacts in business schools

For many schools, the main disadvantages of MOOCs mentioned were the time and costs involved. Many interviewees reported that participating in MOOCs took much more time than they thought. Some thought it would be more straightforward as just recording a few images and making the PowerPoint more appealing. One mentioned that he thought the “moocification” of a course would be simple but found it to be much more complex than that.

“I did this the first MOOC and now I am doing something that his business model even more interesting. I'll tell you later about the moocification of an existing course of mine”. (VD, 1)

Professors often had to redo all content, rethink course design, create new materials, and work together with other experts to achieve an excellent result. Interactions with MOOC platforms also created challenges regarding tighter times and sometimes the need to think about a sequence of MOOCs that forced schools to involve more resources and a more significant investment. In addition to the fact that faculty had to invest much more time, academic directors often did not value this investment and stated that faculty should make MOOCs outside their working hours and did not value their efforts. Some were also disappointed because the effort made had no consequences in terms of recognition and even continuity. After all, the projects were completed without plans for their continuation. Evidence quote: “Time is the biggest obstacle.” (AG, 91)

Costs were another major drawback cited. Many reported that costs were high, either because of the direct financial investment in external resources, teams and supplies, or because of the opportunity cost of the faculty and staff involved. Costs would not be a significant disadvantage if revenues were higher than costs, but direct revenues were not particularly promising and indirect revenues from increased reputation, attractiveness to new clients, better preparation of resources and new offers were difficult to measure. That there was no clear and positive business model for MOOCs was a significant difficulty and disadvantage in introducing them.

“Feeding a channel that could become a competitor is high risk” (TS, 10). This quote reflects one of the significant risks and fears that some interviewees mentioned. Business schools and universities may be helping to create and nurture a competitor that can take business, customers and students from them. Other interviewees, confronted with this issue, mentioned that the risk is low as the target markets are very different and that there will be no cannibalism but rather reinforcement or complementarity.

MOOCs were also reported to have ignited some internal tensions within organisations. The most frequently mentioned was a tension between faculty and managers, with the former typically wanting to invest in MOOCs and online education and the latter, on the contrary, expressing many doubts about an unproven teaching format whose model sustainability had not been confirmed. These tensions can create divisions and hinder the continuity of projects, but they can also prove to be “creative tensions” that lead to innovation and improvement in a final result. The level of tension also depends on the support and degree of involvement that the top hierarchy has in the MOOC or online teaching project. There are schools where the support for projects changed a lot with changes in administration.

“A creative tension between administrators and faculty was created by MOOCs.” (VD, 2)

MOOCs can also prove to be a distraction from the core activities of a business school. Resources are always scarce, be they time, decision-making capacity, equipment, people or money, and dispersed by activities whose profitability is uncertain. They can also harm the school brand by associating it with online educational offers of a perceived lower quality.

“Much of the critique against MOOCs have come from faculty of distance courses eager to point out that this is something different.” (MC, 23)

One of the disadvantages for participants in MOOCs is that they are usually alone. The advantage of the disruption of medium (online vs face-to-face) and time (synchronous vs asynchronous) implies that the student can mostly be alone while

learning. Of course, students can always ask questions in the discussion forums, but interaction is poor and mostly not immediate. Not having direct and immediate support is a significant disadvantage that can motivate students to abandon a course. If participants have fewer good experiences with MOOCs, this can affect the perception of a school's quality.

“One disadvantage for the students is that they are alone” (NL, 40)

MOOCs also have some potential positive impacts, the most cited of which was faculty gaining new knowledge and skills, making them more confident to produce good online content and use it in distinct contexts and methods. This is positive for schools, which gain valuable resources that allow them to innovate. This also allows institutions to learn and be more flexible and prepared for new ways of online and digital teaching. Establishing new partnerships and service providers can also bring exciting advantages, allowing schools to generate new revenue streams. This helps create new ways to demonstrate the school to various stakeholders, whether they are students, sponsors, alumni or society in general.

Schools also reportedly increased the quality of their digital assets and the ability to monetise them, creating a new marketing tool to attract customers. MOOCs allow a school to demonstrate innovation and quality, giving visibility to so-called star faculty. This can provide a school a much wider geographic reach and thus increase their potential market and helps schools fulfil their social mission.

“Institutions want rock stars in their departments.” (HR, 37)

Another advantage mentioned during interviews was the research aspect that can benefit from the introduction of MOOCs.

“I think looking at digital and MOOCs is about augmenting, allowing students to use quality, face-to-face time for a different purpose, not to acquire knowledge, but to test their understanding and build new knowledge, co-create new knowledge that you couldn't share in MOOC format.” (NL, 47)

MOOCs can open new research opportunities and increase faculty's research time. MOOCs can be fertile fields for research in specific areas related to the subject of each MOOC. The ability to access a wide range of knowledgeable or interested people in a topic opens new research opportunities that professors and researchers can take advantage of. It is relatively simple to introduce a questionnaire as part of a MOOC, which can even be seen as a way of deepening knowledge and personal reflection on the themes of the course. This can also be a fertile field to ask about new avenues of investigation because it gets excellent feedback from a wide range of people. Naturally, it is also an exciting area to give visibility to the research that faculty are doing.

“Surveys in MOOCs are a good way to obtain data for research.” (UM, 10)

“People are increasingly trying to incorporate their research and get lots of data from participants.” (LH, 12)

Another advantage is that teaching via MOOCs allows faculty to channel their teaching time towards research. Some interviewees reported that this is an area worth exploring because they consider that investing their time in research can be more profitable for the school, insofar as it produces new knowledge that can then be passed on to higher-level teaching and improve the school's reputation. This more outstanding research production also helps schools in rankings and accreditations, for where research plays an important role. This increased dedication to research also increases the reputation of the most valuable faculty, which can bring substantial economic advantages.

“I'm doing less actual classroom teaching now because we have the MOOC.” (KV, 27)

“MOOCs advantages: marketing, recruitment and delivery of qualifications (upfront cost).” (HR, 34)

4.5 Landscape of MOOCs among business schools

In this section, some of the particularities of the MOOCs in which the interviewees participated will be analysed, focusing on target and actual participants, type of content, and results obtained. While this is not the central axis of the investigation, it seemed relevant to include it in the thesis as it enriches the academic contribution and could open areas for further research.

4.5.1 Type of participants, needs and objectives

MOOCs are usually designed with desired participants in mind, defined in terms of the objectives of the school and the project promoters, whether they are sponsors, faculty or MOOC platforms. Designing the MOOC for a final audience involves making decisions about design, content, sequence and the type of elements used. This choice of target also facilitates the promotion of the MOOC. However, the target participants do not always end up being the actual consumers who register for MOOCs, with interviewees having reported some surprises in this respect. This is also an area of learning for schools, promoters and contributors to MOOCs, who need to monitor who applies for their courses closely, who completes their course and who obtains certificates. Only with this information is it possible to adapt the contents and ensure the goals of everyone involved are met.

“We didn't get many people in the target age group.” (JD, 20)

Professionals and graduates were the most common participants in MOOCs. Some MOOCs were attended, somewhat surprisingly, by professionals looking for knowledge, skills development and a certificate to show their employer. They were active, knowledgeable adults looking for a way to advance their careers. Another segment that appeared frequently was graduates from the MOOC area of knowledge seeking to further their learning. They saw the MOOC as a way to continue learning and interacting with other peers who might have similar interests. This profile of participants shows that companies and their employees are an essential target of the MOOCs offer. This is also evidenced by the platforms' commitment to this target market, which also happens to be the target market of business schools.

The type of participants also determines the follow-up that needs to be done while the MOOC is running, whether this involves monitoring progress of the MOOC, participating in discussion forums, writing messages that seek to encourage continuity in the MOOC and carrying out the various training stages. Some schools use students, PhD students or assistants to do this work. In some schools, greater involvement of the school community with the MOOCs has been achieved in this way.

“We quickly discovered that we were overwhelmingly reaching professionals. Adult professionals looking for some sort of post-graduate credential and career advancement, more than we were reaching school leavers.” (LC, 13)

4.5.2 Types of courses

Respondents participated in or contributed to more than fifty MOOCs in finance, design thinking, strategy, pedagogy and other topics. Most MOOCs are from the management and speciality areas of the interviewees. The reasons for choosing the themes, titles and plots of the MOOCs can be found in sections 4.6 and the next one.

4.5.3. What makes the difference in MOOCs adoption?

From the data it was clear that the MOOCs creators seek to create offerings that attract many targeted participants. Those MOOCs contributors, in addition to their normal professional tasks, are often called on to contribute to creating an attractive offer and a wave of recommendations. Elements such as the title of a MOOC, its training summary, and profiles of the faculty who will participate are essential in this regard. The plot plays a crucial role in attracting participants and maintaining their interest and may include a story that creates a desire to know what comes next, like series or sequels of books that capture our attention. Creating this plot of unexpected moments or surprising content also takes a lot of time for those who contribute to the MOOC. It requires creativity and the participation of several elements, and the conciliation of different perspectives: the teacher who wants to pass on specific content; the pedagogical designer who

wants to have the appropriate sequence and seeks to pass on that content; and the project manager who wants to finish the project within a specific deadline.

The attractiveness of MOOCs also depends on the school or university that promotes it, the professors or specialists who participate in it, and the MOOCs' duration. Another aspect of the attractiveness is word of mouth. If a MOOC creates a good image and satisfies participants, it tends to attract new participants.

The platform where a MOOC is located is also of great importance for its adoption, with the two platforms Coursera and FutureLearn frequently mentioned during the interviews. Both platforms make a great effort to attract new schools, universities and professors to create MOOCs because their business model depends on them. There are some significant differences between the two platforms due to their history, positioning and goals. Coursera is much more aggressive in terms of business and providing new MOOCs. It has a more pragmatic and commercial approach. Meanwhile, FutureLearn, born and developed with academics and within the scope of the BBC, has a perspective more centred on knowledge dissemination. Both platforms go to great lengths to help institutions and faculty create good MOOCs. Business schools are also learning organisations as new MOOCs are included, and new business and revenue models emerge. The uncertainty of the business model of these platforms also creates some difficulties for institutions that develop MOOCs. The platform's size, in terms of the number of MOOCs and the number of potential participants, has enormous relevance for the degree of adoption of MOOCs. Marketing, promotion and sales skills also play a decisive role. These platforms increasingly focus on the business market, which may have some advantages for training employees with reduced costs and lower opportunity costs.

4.6 Additional findings

Some surprising things came up during or after the conclusion of interviews which seemed relevant to include to enrich and complement the findings and which may be useful for further investigation.

The interviews allowed for some comparisons to be made between the various regions of the interviewees. The general idea that emerged was that the USA was the country with the highest level of engagement with MOOCs, where it was a more deeply rooted and familiar concept and where there did not seem to be as much resistance to their introduction. The advantages seemed to be most evident either for the institutions that developed the MOOCs or for participants, who had a strong desire to continue investing in MOOCs and online education. This state of affairs may be due to historical reasons, technological advancement, or a more significant offer. Australia came next and seemed to want to invest further in this area, taking advantage of the language and reaching other geographies to overcome its more peripheral and insular location. In third place was Europe, where resistance and doubts subsist. Naturally, as there are more interviews from this continent in the data, it was also possible to find more nuances. However, there was some desire to move forward quickly and do better in order to not be left behind. In Europe, too, different realities were found between different schools and universities, with interviewees sometimes explaining the differences themselves. However, despite some peculiarities, the main conclusions of this study depart from and apply to all geographies.

“Moocification of an existing course” (VD, 1). The idea behind this expression is easily understandable, but what caught our attention was the word created and the fact that it took in the process of moving from a face-to-face discipline to a MOOC. It seemed logical at the time, but behind it lay a whole way of transforming content designed for a face-to-face methodology into something that can be included in a MOOC. Later in the interview, the interviewee explained that content had to be enriched with storytelling to keep participants interested. To build the plot of the story and achieve the desired goals, the respondent created a detailed mind map with the structure of the MOOC that allowed him to visualise the desired learning path. This framework took several weeks to develop and helped him think more deeply about each concept being worked on and how to go about it.

“Business schools are making a big mistake in focusing on what companies need” (VD, 29). Companies are often significant customers, and it makes good business

sense to focus on what customers want. This phrase from one of the interviewees is counterintuitive, but it is possible to understand because business needs to change over time. The idea is that companies need trained and intelligent people and do not need to train them for a specific function or need, as these change over time. Instead, universities and business schools should cultivate the mind, help people learn new things, and provide the foundation to research and interpret new situations.

“Face-to-face may not be the most efficient way to learn” (HR, 9). This respondent mentioned that the evolution of technology could make teaching more efficient than in-person classes, even if in-person classes are more enjoyable and have an important social aspect. As technology improves on the social side, it may become an efficient means of teaching. The respondent also referred to the use of virtual reality devices that allow them to create an experience that is very close to the face-to-face experience. Virtual reality can be more efficient to the extent that, through technology, it is possible to create an experience similar face-to-face without face-to-face and with fewer resources by avoiding travel and associated inefficiencies.

“The idea is to show them (parents and alumni) what/how we do it at ####” (SC, 3). While MOOCs are mainly aimed at individuals who want to learn or companies who want to train their staff, this comment is interesting insofar as it focuses on showcasing a school’s offer to other audiences, such as the students' parents and the alumni. It is a way of bringing relevant stakeholders into the school so they can gain a better idea of what is taught, by who, and how.

“You are putting lipstick on the pig” (BO2 8). This expression captures a feeling of lower quality teaching in MOOCs compared to face-to-face. However, it also reflects the fact that MOOCs still have a long way to go to resolve some difficulties in their design and delivery to be able to increase the level of quality and move closer to other existing teaching solutions.

“Physical campus or cloud campus” (BO2 9). One of the interviewees talked about the university's growth and referred to the question of whether it would be better

to pursue physical growth of facilities or to invest in online campuses, which would provide greater flexibility, lower costs and new technologies and features that enhance student learning. While in that particular school the recent trend is to grow in person, online has significant growth potential. This is a debate that is increasingly present in schools and universities, and the arrival of covid-19 and the adaptations it entailed intensified this discussion.

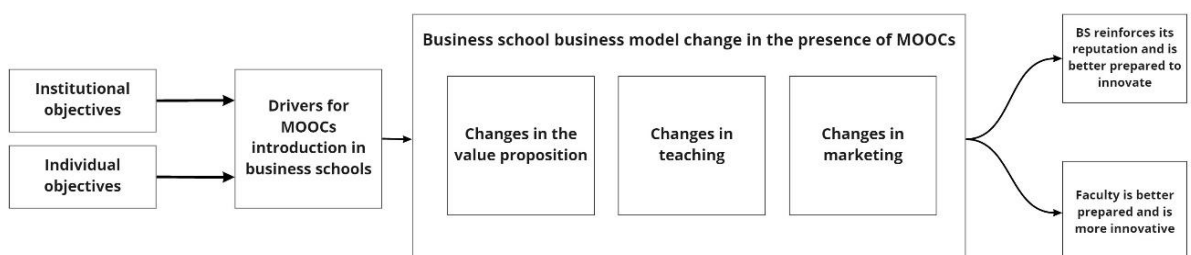
MOOCs give “more flexibility in unforeseen events like a snowstorm”, adding a dimension of flexibility to schools in the face of unforeseen events. In addition, they can be a tool used to extend in-person teaching and complement other synchronous communication activities.

4.7 Inductive model from data

Following Gioia's methodology, an inductive model was designed based on the data (see Figure 4-4 Inductive model from data). While the data structure is a static view of the findings, the inductive model provides a dynamic view, allowing us to see that personal and institutional drivers lead to the introduction of MOOCs in business schools.

As saw in detail in this chapter, this introduction of MOOCs creates a varied set of impacts on core elements driving change in business schools. These changes, in turn, have implications on at least two levels in terms of institutional reputation and of the preparation of business schools to innovate and follow trends, and shows that faculty that can better prepared and more innovative.

Figure 4-4 Inductive model from data



4.8 Chapter conclusions

At the end of this chapter, it is useful to recall the research questions that guided all the investigation work carried out:

- (1) What drives the adoption of MOOCs by business schools?
- (2) How do individuals perceive their changing roles in the production and delivery of MOOCs?
- (3) To what extent do MOOCs affect the business model of the business schools?

The first objective was to understand in some depth the objectives of those who promoted the introduction of MOOCs, whether their own, i.e., an individual perspective, or the institutions to which they belong, i.e., an organisational perspective. The second objective was to understand the impact of MOOCs introduction on the business model as a whole and its constituent elements.

In terms of individual goals, it was important to understand what led interviewed to participate in MOOCs. There were interests more linked to the perspective of evolution and personal value, such as learning, becoming better known, being more valuable, increasing reputation and promoting their expertise or research. Some of these interests are also relevant to institutions. Other goals were more linked to altruism and the desire to teach many people simultaneously. In this dimension, the main objective was to give back to society.

In institutional terms, it was possible to find objectives relating to the evolution of the business model and other objectives more linked to the teaching and research purpose of schools. Objectives included experimentation, creation of a new offering, reaching new customers, enhancing reputation and marketing tools, increasing revenue and diversifying revenue sources. Learning objectives, not being left behind and being seen as innovative and prepared for the challenges of online education can also be referred. On the other hand, objectives linked to the mission of teaching society also played an important role, with institutions seeking to use their resources to teach those who may not have the opportunity to access education, whether for geographical, time or financial reasons.

Regarding the impact of the introduction of MOOCs on the business schools business model, it was valuable to analyse the impact on three major dimensions: value proposition, changes in teaching, and changes in marketing. MOOCs have expanded and enriched the existing value proposition for current or potential students. One of the fundamental purposes of business schools is to teach. However, teaching through MOOCs is different, requiring faculty to adapt their skills and content to this format in a way that will be useful in other online training proposals. In this respect, it was crucial to understand how teaching changes across formats. The experience of participating in MOOCs has also created greater flexibility in teaching methodologies, which now include options like blended and flipped classroom options. At the marketing level, the reach and reputation of the brand increased with MOOCs, making it possible to add an offer in which participants from other geographies and with limited time could experience the school's products and experience faculty and their methodologies.

The impacts identified did not profoundly change the existing business models of schools. Could exist other changes in some business model elements that may even be reinforced from the MOOCs introduction impact. However, there is a desire to increase its reach, reputation, impact and have its resources better prepared for new ways of teaching, namely through the internet.

A theme which often emerged from interviews was preparing for the future. There is a clear notion that the investment in MOOCs is essentially learning and experimenting to better prepare people and organisations. While the introduction of MOOCs may not have an immediate and profound impact on a business model, it does contribute to preparation for future changes in technology, in the way of teaching, in the type of students who will come to business schools, what they seek to receive, and the format in which they want to receive it. Insofar as business schools are learning organisations, MOOCs are a means of learning to have the best business model to accommodate the impacts of changes that may take place in the future.

It could be inferred from the research done that MOOCs can help business schools become more resilient and flexible in their business strategy. As outlined above, there are also many limitations, difficulties, risks, doubts and uncertainties surrounding the introduction of MOOCs, which are essential to understand and manage to maximise gains and minimise losses. From the analysis of the findings and based on the literature review, it is possible to better understand the dynamics of change in the business model, the need for change, how it happens, and what are the drivers, limitations and facilitators of this change. This discussion will be carried out in the next chapter.

Chapter 5 Discussion

This chapter will examine how this thesis contributes to knowledge in several dimensions. First, it will outline the research motives and how the study has achieved its initial aims. Next each of the research questions are answered, including a contrast between the findings and the existing literature. Finally, the inductive model build will be detailed.

5.1. Introduction

The thesis considers the implications of MOOCs for business schools from a business model perspective. There are several motives for the research.

In the first place, the rising academic and managerial interest in business models (Cozzolino, Verona and Rothaermel, 2018; Ritter and Lettl, 2018; Amit and Zott, 2020), MOOCs (Baggaley, 2013; Impey and Formanek, 2021; Yousef and Sumner, 2021) and in business schools (Alajoutsijärvi, Juusola and Siltaoja, 2015; Kosnikov *et al.*, 2021). These subject areas are relevant, up to date and need further research.

The emergence of business model innovation as a strategic option to improve organizational performing and generate value for clients, the target company, and its network came in second place (Ricciardi, Zardini and Rossignoli, 2016; Caputo *et al.*, 2021).

Lastly, business schools lack a basic knowledge of how company models evolve (Thomas and Cornuel, 2014; Bradshaw, 2017; Halkias *et al.*, 2020), this study's objective was to further the knowledge of how business model change occur in business schools.

The specific academic objectives were understanding in detail the process by which the introduction of MOOCs changes the business model of business schools; to understand the reasons and objectives that led schools and professionals to

develop MOOCs; how the roles of the individuals involved in MOOCs change, and to gain a deeper understanding of the business model of business schools, its elements and interconnections, and further study the business model concept as a whole.

Several gaps in our understanding of MOOCs have aroused the interest of academics, managers and society more broadly. Some authors (Daniel and Uvalić-Trumbić, 2014; Radford et al., 2014) predicted that their growth could lead to changes in the education sector and alter the landscape of business schools. This research of MOOCs in the context of business schools thus seemed relevant and could contribute to a better understanding of this phenomenon, its impact and future evolution.

In the case of business schools, this research is especially relevant because MOOCs pose an apparent paradox of being two antagonistic paradigms in several dimensions, for example, in terms of cost, dimension, access and location (Daniel, 2012a). While some interviewees had not thought about the topic, explanations emerged around the mutual reinforcement of the two paradigms and the mission of schools to educate, with MOOCs allowing them to reach many other people.

Examining this research area through the literature on business models, MOOCs and business schools and following the research motivations and objectives, the research questions were formulated as:

- (1) What drives the adoption of MOOCs by business schools?
- (2) How do individuals perceive their changing roles in the production and delivery of MOOCs?
- (3) To what extent do MOOCs affect the business model of the business schools?

Data from thirty-three interviews and secondary data were collected and analysed with thematic analysis, following a qualitative research design applying Eisenhardt's approach and Gioia methodology. The "analytic story" (Corbin and Strauss, 2008) is based on the relevant topic of the influence of MOOCs on business school business models, using grounded theory and theoretical combination.

The previous chapter illustrated the three key findings: 1) individual and institutional objectives in making MOOCs, 2) the individuals perceptions of their changed roles; and 3) the impact of introducing MOOCs on the business school business model in three theoretical categories: changes in the value proposition, teaching, and marketing and school reputation.

When taken as a whole, the results provide a fresh understanding of how business model transformation occurs in business schools when MOOCs are present. The study also provided a clearer idea of why faculty and schools created MOOCs and the results obtained. In sum, the findings make several contributions to existing research in three distinct fields. The contributions will be useful to academics and researchers interested in those fields, to managers, directors and faculty of business schools or universities.

5.2 Answering the research questions

5.2.1 RQ1: What drives the adoption of MOOCs by business schools?

While studies that have analysed the motivations of universities to start developing MOOCs (Liyana-gunawardena *et al.*, 2013; F M Hollands and Tirthali, 2014; Godwin-Jones, 2014) are helpful in the broader context of universities, it seemed important to understand in more depth the reasons that led business schools, which have their own specific organisational characteristics, to create MOOCs, insofar as MOOCs represent an operational logic that is quite different from their traditional way of functioning. Specifically, the aim was to know which specific drivers led business schools and individuals to take this path. After reviewing the literature, such as it is, it became evident that this topic had not yet been studied in a structured and qualitative way.

Institutional and individual drivers for the introduction of MOOCs

Regarding the drivers for introducing MOOCs at the institutional level, some of the reasons for their introduction were mentioned frequently in the interviews and relate to the school mission and strategic objectives. In this context, objectives

were linked to the reputation of business schools, to new ways of reaching and attracting potential candidates, and to the importance of learning and being better prepared for future business challenges through the provision of online teaching. Other objectives mentioned included increasing revenue, increasing organisational flexibility, and creating new ways of giving discounts or credits to access face-to-face education.

Understanding these drivers allows us to assess these institutions' priorities and strategic objectives and determine to what extent the introduction of MOOCs contributes to their fulfilment. It also suggests that the decision to introduce MOOCs can be part of a broader strategy, even if it is emergent and not completely explicit on the part of business schools. In other words, the function of MOOCs may not be limited to a few specific drivers but can be part of a broader institutional plan.

Understanding what drives individuals to produce MOOCs helps us understand MOOCs themselves, with the two main drivers in terms of personal interests being learning and the ability to teach more people. In terms of learning, many interviewees recognise that technology and the latest trends in access to information and education are having a growing impact on teaching methodology and that they must adapt to this new context by learning. Naturally, the degree of adaptation that is seen as necessary varies. Some respondents referred to the use of virtual reality to teach at a distance, while others referred simply to a need to make greater use of digital materials. In terms of reach, many respondents claimed a desire to teach more people for altruistic reasons and for self-fulfilment. Those who teach or work in educational institutions usually desire to give knowledge to more people, thus creating value for individuals, companies and society, as seen in the literature review.

Several interviewees highlighted the desire to experiment and learn, a critical factor in the innovation of business models (Di Toma and Ghinoi, 2020). Some authors refer that cognitive search (CS) and experiential learning (EL) are the main ways in which organizations promote business model innovation (Berends *et al.*, 2016). In this study, that can be seen at two levels: those who produce the MOOCs

and at the leadership level. Several faculty accepted to participate in the creation of MOOCs because they wanted to try another way of teaching that they thought could become more prevalent in the future and thus be better prepared (Ko and Rossen, 2017). They knew it had to be hands-on learning (Schank, Berman and Macpherson, 1999; Salmon *et al.*, 2015). Also, in terms of leadership, several mentioned that they started the project to get to know the phenomenon better and prepare the school for increasingly technological and online teaching (Rubin, 2013). There was an awareness that it was a different way of teaching, which involved risks, new investments in people and resources and without being sure of the best model to make it profitable. However, they could not help but experiment and learn. Several authors highlight the power of the individual in the dynamics of business models (Howell, Shea and Higgins, 2005; Günzel and Holm, 2013; Warner and Wäger, 2019).

Power is central to innovation and change processes (Smith, 2007). Some faculty reported that their hierarchies supported them and valued their initiative. Others, on the contrary, mentioned that they had to fight for the opportunity and even ended up being penalized for having joined the project. Another aspect that stood out was the tension that was sometimes generated in the academic environment between those who supported the MOOCs initiative and those who did not see a concrete business model, so not a path to follow (Longstaff, 2014). Although this tension sometimes led to creative solutions (Suh *et al.*, 2020), such as credits at schools for completing MOOCs, in other cases ended in rupture situations, like closing the project.

MOOCs introduction in the context of Business Schools

MOOCs as an answer to challenges and critics

Fierce competition places tremendous pressure on business schools (Thomas, Lee and Wilson, 2014) with a tyranny of rankings (Khurana, 2007) and critical voices being raised about their role in society and the way they teach and function (Ghoshal, 2005). As a result, some schools look to MOOCs as an opportunity to achieve institutional goals and as a tool for their own differentiation. Other

schools appear to have joined the MOOC wave because other well-known schools have (Reich and Ruipérez-Valiente, 2019).

One of the criticisms levelled at business schools is that they are too market-oriented (Schoemaker, 2008), in the sense of being too motivated by surplus. As identified in the findings, MOOCs can counterbalance this idea by allowing schools to offer courses free of charge, acting with generosity towards society by offering their expert knowledge and skills and reinforcing their value to individuals, companies and society. This generosity is even more remarkable when it is global and allows access to a certificate from the institution with the payment of an amount that is generally accessible. In this way, these institutions also reinforce their reputations, which is one of the institutional goals of introducing MOOCs.

Another criticism of business schools relates to the balance between research and teaching (Thorpe & Rawlinson 2014, Thomas & Peters 2012), with the latter benefiting the school as a primary source of income. In this dimension, MOOCs can help because they free up faculty time for research when teaching is provided digitally. MOOCs can showcase a teacher's research, giving it greater visibility, and are an opportunity for research in themselves, requiring further study and being potentially used as a source of research data from many perspectives, including in terms of participant type, completion ratio and popularity of content, schools and faculty. MOOCs can also facilitate research by providing access to potential research respondents.

According to McCann (2006), business schools have not prepared students for the "new economy" centred on science and information, but the investment and importance given to MOOCs counteract this critique, not only because MOOCs prepare more students for the "new economy" through online technology, but also in the sense that they strengthen faculty and schools in this regard. Many schools have used the content and facilities established to offer MOOCs for much more, including teaching, institutional communication and research.

By allowing classes to be multiplied without affecting the teacher's time, MOOCs can help solve the problem of a lack of good faculty, another of the difficulties

business schools often face (Cornuel and Eric, 2007). It was interesting to note that this was one of the benefits necessarily desired by the faculty interviewed and that, in most cases, it did not materialise.

Internationalisation is a quality that is increasingly demanded of business schools. In this regard, MOOCs can be an excellent tool because they allow simple, fast and global access independent of time zones (Kwok and Arpan, 2002). One of the main drivers to increase internationalisation is diversification, and MOOCs are clearly aligned with this driver. Despite various efforts in this area, however, it is often found that MOOCs participants tend to be from the same geographical area as the school. Placing MOOCs on international platforms helps internationalisation by reaching participants and other institutions across the globe that may be interested in knowing or licensing the contents of these MOOCs.

Schools are often drawn to MOOCs because they provide the chance to improve their reputation or save expenses by producing information that can be reused. However, existing and prospective students may get a picture of how institutions educate since part of their teaching is more public via MOOCs. Universities are beginning to focus more on teaching quality as a result (Daniel, 2012a). That is a healthy development for individuals in the university and those observing from the outside through MOOCs.

Drivers of change

Reputation is vital for business schools, as it is for many other organisations (Ma and Osiyevskyy, 2017). However, many business schools and universities see their reputation evaluated by third parties and published in rankings or quality certificates (Noorda, 2011; Wilson and McKiernan, 2011). It is thus no longer just a matter of market reputation but a matter of public reputation, even among those who are not customers or regular users. Naturally, this public reputation has significant impacts, leading to a "tyranny of rankings" (Khurana, 2007). It is therefore necessary to pursue continuously position organisations within the rankings, placing, in most cases, significant weight on market trends, internationalisation, innovation and technology. MOOCs can contribute to these

various dimensions and, as such, help in rankings and strengthen institutions' reputation.

Based on the external factors mentioned by Saebi, Lien and Foss (2017), it is possible to see that MOOCs are a new external technology that some schools have adopted, impacting their business model. In addition to technology, other factors also drive the change in the business model of business schools, such as globalisation, innovative marketing tools, trends among younger generations, emerging needs of organisations, the need to strengthen reputation and create an image of innovation, among others. These factors lead business schools to represent their business model, adjust their strategy and conduct strategic initiatives to seize opportunities and minimise impacts. MOOCs can be an opportunity and a way to respond to these trends. For example, globalisation is leveraged by MOOCs insofar as it allows anyone globally to make a MOOC, thus gaining greater visibility and reputation globally. Take, for example, the investment in MOOCs by top schools like Harvard, which position themselves for a global market. MOOCs can also reinforce a school's image of innovation by placing them at the forefront of trends. MOOCs are a factor in themselves, but they can also fuel other drivers of change.

From the perspective of Bock *et al.* (2012), internal elements are other factors of change, including among others, the need to increase and diversify the sources of revenue, better prepare faculty and acquire necessary resources to teach online classes, which everything indicates will grow. On the other hand, developing new and more efficient marketing tools allows reaching new potential customers. The fact that these customers are natively digital allows greater personalisation according to the digital footprint and individual profile. According to Day (1994), previous experience also plays an important role. It was common to find contributors who were invited to participate because they had previous experience online with new teaching methodologies or who were recognised as people willing to accept new challenges. This previous experience makes it possible to lower resistance, avoid making mistakes and significantly speed up the implementation process. At the overall management level, experience with technology facilitates acceptance and the creative discovery of new uses for

digital materials. For example, one of the courses of content created in MOOCs ended up being placed on various screens around campus, enhancing innovation, the school's image, and the multiple possible uses of existing content. Another case was the creation of a lab with technical and human resources that could be used for MOOCs and in other contexts such as online classes, recording promotional videos or interviews with managers or visiting professors that required superior recording quality. This lab also allowed campus students to familiarise themselves with technologies and develop new skills such as being in front of a camera or manipulating digital content.

According to Sosna, Trevinyo-Rodríguez and Velamuri (2010), the need to learn was one of the main drivers for introducing MOOCs in business schools. Being something new undergoing significant growth, in which some renowned schools were investing and without a transparent business model, it became evident to some schools and individuals that it was necessary to explore this new technology. One of the main attractions was the high number of participants that some MOOCs managed to attract. This became desirable for institutions as it represented access to many potential clients, whether individuals or organisations in which they worked. Faculty also saw MOOCs as a way to promote knowledge of the school, increase its reputation and value, and publicise their work and research.

Faculty who usually taught many classes also saw MOOCs as an opportunity to teach fewer classes and dedicate themselves to other tasks such as research or fieldwork. However, for that, they had to learn about MOOCs first. This learning curve helped institutions and individuals better understand this technology and stimulated the development of new processes and ways of working, enhancing teamwork and the need to involve multidisciplinary skills in teaching. This environment of experimentation and innovation would also help assess new teaching methodologies that could be more appropriate in specific contexts. An example was the use of blended teaching (Fearon, Starr and McLaughlin, 2012) methods (online and face-to-face) to achieve scale by training more people: classes involving knowledge transmission were made available online, and face-to-face class time was reserved for developing relationships, communication and negotiation skills, thus reducing the number of hours in which it was necessary to

have faculty present. The learning process created the necessary resources to develop the training.

MOOCs contribution to the mission of business schools

Following Hay (2008), academic value is generated via research and distribution, personal value is developed through instruction, and social value is created by educated and skilled graduates and their interactions with the society in which they act. If MOOCs are analysed in these different dimensions, it will be seen a clear contribution to the mission of business schools, as some interviewees explained.

Academic value is readily apparent from the experimentation, research and learning that MOOCs provide. The fact that some schools invest in exploring and exploiting the phenomena was crucial for the personal value (Ranjan, 2011). In terms of distribution of that value, it is even more evident as the schools' value proposition has expanded with the introduction of MOOCs. The distribution of teaching, knowledge and research is facilitated by MOOCs' online, free and massive nature.

Individual value is also expressed across several dimensions, as the barriers to access are lower and the availability of the offer of content and courses has expanded significantly. In many cases, MOOCs represent the difference between having nothing and having many options, due to the thousands of courses offered by different platforms, schools and universities.

Based on the benefits mentioned above, the added value of MOOCs is also undeniable in terms of society, or public service, with schools and universities that are better prepared to research more, with new tools to fulfil their mission and reach more people. There is also the contribution of individuals who are better prepared to deal with personal and professional challenges, bringing added value to society through their work in those fields and interaction with other social agents.

The relevance of universities will increase if academics and leaders can create an inspirational vision for education that satisfies the needs of all society's learners (Ong and Grigoryan, 2015a). As saw in the findings, MOOCs are an example of this. Various firms and start-ups might unbundle (Terwiesch and Ulrich, 2014) the specialized tools, services, and experiences of conventional higher education. Higher education institutions must try to reintegrate these dimensions by combining high standards of quality with the demands of lifelong learning.

MOOCs contribution to innovation and online teaching reputation

The research findings reinforced the institutional and individual goals referred to in the literature review (T. Clarke, 2013; Yuan and Powell, 2013; Al-Atabi and Deboer, 2014; F M Hollands and Tirthali, 2014). However, some nuances can be highlighted in the identified objectives. One was the notion of projecting an image of school innovation and increasing their reputation in online teaching. Another was the explicit and constitutive purpose of the “mother” university in which the business school is integrated to disseminate knowledge for free, which was in line with the MOOCs model. Another nuance was the reinforcement of the reflexivity that the MOOCs brought to start training at any moment, levelling knowledge at an early stage and allowing courses to be initiated at one’s own pace, making admissions more flexible. Another was a need identified to make teaching a less focused and controlled activity by the teacher. MOOCs pushed toward this model and made faculty more receptive to this method.

Sometimes the innovation of business models comes up against individuals' lack of adaptability and robustness (Buliga, Scheiner and Voigt, 2016; Bocken and Geradts, 2020), who are not always available to change (Günzel and Holm, 2013; Huang *et al.*, 2013). Collecting and analysing the reasons that led some faculty to start the adventure in MOOCs makes it possible to identify the triggers of this process, which precedes the decision to move on (Stampfl, 2015). It was also possible to verify the faculty' adaptability to new routines creating change (Feldman, 2000) and the fact that they lost some importance for more collaborative and complete teamwork. This situation reinforces the importance of team knowledge in change processes (Khedhaouria and Jamal, 2015). Doing new

tasks, learning various things, thinking deeply about the content and being part of a multidisciplinary team are aspects that facilitate the adaptation of those who initially accept the idea of making MOOCs.

In essence, business models' dynamics depend on individuals' knowledge, creativity and ability to recognize the need for change and to promote and implement it through decisions and actions (Cavalcante, Kesting and Ulhøi, 2011; Warner and Wäger, 2019).

Digital generation learning

Students today are more impatient and performance driven than previous generations (Gottfredson, 2011). MOOCs seem ideally suited to engage with the digital generation, which likes to multitask and parallel process prefers visual content over words, and works best when wholly linked (Prensky 2001, Clarke & Clarke 2009). According to Gottfredson (2011): “The actual nature of twenty-first century learners is resistant to learning options that are delayed and removed from the here and now”.

Terwiesch and Ulrich (2014) identified SuperText as the focal technology embedded in MOOCs that opens three pathways to business schools: serve more students better or more efficiently, serve actual students with fewer faculty, and unbundle some business schools functions. In the first pathway, which they call Status Quo Plus, the goal is to enhance learning per student or student enrolment, whichever is higher. Increasing the amount of learning can be obtained at different moments: before arriving on campus (certain requirements and knowledge can be acquired), while on campus (certain optional or extra content can be learned online, freeing up time for other experiences), and after graduation (promoting lifelong learning and a connection with the school and its community).

In the second pathway, displacement of faculty by SuperText, the idea is to use MOOCs to reduce costs, replacing faculty with lower cost solutions, using “flipped classrooms” (Elmar Schultz, 2014) or by replacing faculty with tutors.

In the third pathway (unbundling of business school activities), the authors shift the perspective from the business school to the students who want to fulfil several needs: acquire new skills and information, alter one's profession, gain a certificate, or join a network. In terms of credentials, MOOCs could help to identify participants that can differentiate themselves by showing the knowledge or creativity desired by employers. In the knowledge dimension, MOOCs could change the paradigm from the traditional “learn-learn-learn-certify-wait-wait-wait-deploy” (Terwiesch and Ulrich, 2014), or not deploy, as the case may sometimes be, with a negative impact in the return of the investment. In contrast, MOOCs create the option to pursue courses on demand, like a just-in-time production system.

Doing research with MOOCs

While research is central to the activity of business schools (Gupta and Bharadwaj, 2013; Vazquez Sampere, 2013; Chia, 2014; Chia and Holt, 2014; Thomas and Wilson, 2009; Thomas, Lee and Wilson, 2014; O'Brien et al., 2010), unlike teaching, research does not form part of the essence of MOOCs.

Few interviewees gave much importance to the research aspects of MOOCs, referring instead to the importance of investigating the phenomenon and aligning this research with the latest trends such as globalisation, technology and lifelong learning. Some referred to existing data on MOOCs as a source of research material or access to a wide range of people as research facilitators.

5.2.2 RQ2: How do individuals perceive their changing roles in the production and delivery of MOOCs?

While the factors driving the introduction of MOOCs seemed relevant (RQ1), how individuals saw this change in terms of their professional tasks and roles also aroused research interest, offering, as far as is known, an original avenue of research. As the business model concept is closely linked to organisational structure, processes, resources and activities, the perspective of the concrete

actors operating within the business model seems to be a particularly promising avenue for further study.

Changing roles in individuals that produce and deliver MOOCs

From the identification of some central tasks of the individuals involved in MOOCs in the literature review and from the research findings, it is possible to identify how the professional tasks of various individuals have changed. These tasks mainly involve teaching, preparation, investigation and delivery but also include a set of new tasks in a distinct collaborative context.

Teaching with MOOCs

Teaching via MOOCs presents significant differences to face-to-face teaching. Besides identifying the subjects to be covered in the MOOCs, it is critical to create a compelling narrative for the content and how it will be transmitted. This MOOC plan usually involves a larger team of pedagogists, technicians, and text and presentation creators. The manner, position, movement, content and duration of teaching no longer depend entirely on the teacher alone. While faculty continue to be the central element, they cede some of their power to a broader team. This team helps decide the sequencing of content to be created and the way in which text, video and quizzes, for example, are used. The creation of content, quality assessment, uploading content to the platform, and monitoring of the development of the MOOC are all tasks for a team that is far larger than an individual teacher.

Another professional profile for which key tasks changed was that of IT specialists with business schools. While these specialists routinely perform support or software development tasks, they often came to play a more central role in developing and delivering MOOCs in terms of recording, editing and managing and monitoring the technological relationship with platforms. Some schools turned to specialist companies to carry out such technical tasks.

As stated by Hay (2008), teaching is the main mechanism by which value is delivered to students and has several dimensions, such as transmitting knowledge, developing curiosity and interactions, and instilling a love of learning. The primary function of MOOCs is to impart knowledge using texts, videos, exercises and presentations. This transmission allows participants to arouse their desire to learn and is often provided with bibliographic suggestions and other resources to continue learning after the conclusion of the MOOC. This learning context is reinforced by interactions between the participants and institutional facilitators in discussion forums.

Teaching management is teaching knowledge transformed into actions (Rousseau, 2012). It was interesting that some interviewees mentioned that most of those who participated in MOOCs were people with prior training and professionals seeking to develop knowledge in the areas in which they already worked. These participants were either seeking insights into how to do their job better or to evolve in their careers, with a clear perspective of transforming knowledge into concrete results. In practice, this is learning in a context of precise needs, a dimension thus totally in line with the idea expressed at the beginning of this paragraph.

One of the difficulties of teaching is evaluating results. Most of those who attend MOOCs do not pass the assessments (OBHE, 2013, p.32), with only those who wish to obtain a certificate needing to be evaluated. This naturally limits the degree to which teaching via MOOCs can be assessed, making it essential to define the objectives of a MOOC from the outset to be able to evaluate the final results.

From interviews, MOOCs have developed the knowledge and skills of faculty to use other teaching methodologies. There is greater use of technologies and online content to facilitate access to knowledge and innovative approaches such as the flipped classroom, blended classroom or recorded online classes to transmit basic concepts.

In terms of future research, it may be interesting to study how the tasks of other individuals within the business school change with the adoption of MOOCs,

including those working in marketing and communication, sales, admissions and materials production. It may also be necessary to develop, maintain and update new spaces and technological infrastructure.

MOOCs change traditional face-to-face classes

Traditional face-to-face teaching is a very individual task. After receiving a set of guidelines on the subjects to be taught, the ILOs (intended learning outcomes) (Biggs, 2003; Greensted and Hommel, 2014), the number of classes, the assessment methods and other related aspects, faculty prepare classes, deliver them and carry out assessment as necessary. These tasks are generally carried out individually, with faculty generally enjoying a high level of autonomy. Indeed, as one interviewee remarked: “When the teacher closes the classroom door, he is in charge” (KV, 11).

Some respondents mentioned that their experience developing MOOCs made them change the way they teach more generally, including by starting to use more digital media such as videos or online quizzes or using methodologies such as the flipped classroom. Many respondents mentioned becoming more sensitive to their students’ needs and methods of learning, which include a preference for using smartphones to access content and a shorter attention span. This experience has also changed the type of interaction between faculty and students as they begin to have more contact outside the classroom.

Involvement with MOOCs

As all interviewees participated in the promotion, creation or supervision of MOOCs, they all understood what MOOCs are. As expected, the greater the involvement, the greater the knowledge of details and processes. The type of involvement of participants in their MOOC determined their areas of in-depth knowledge, with some thus acquiring a lot of statistical and impact information that allowed them to delve deeper into the topic. While faculty and educational specialists focused on teaching, some managers were especially interested in certificates (T. Clarke, 2013) as a way of making the most of the considerable

investment that MOOCs entailed. On the meaning of MOOCs for business schools, some were quick to say what they were for, as a reputational investment, as a marketing tool or as a way to develop online education. In summary, the usefulness of MOOCs for business schools was clear from respondents.

Another dimension of MOOCs is the necessary interconnection between institutions for their development, whether from a technological perspective, a content perspective or a funding perspective. This interconnection allows the strengthening of relationships and increases synergies, enhancing the reach and impact of MOOCs (Burd, Smith and Reisman, 2014; Nagashima, 2014).

MOOCs as a teamwork

Respondents' reactions to being part of a broader team in the moocification process of their disciplines was generally positive. Several mentioned a critical need to think deeply about the topics to be taught in the context of the MOOC. Doing this work as a team and with a view to different teaching methodologies allowed them to learn a lot and develop new skills. The preparation of materials, including the recording of videos, helped them to be more comfortable with the cameras and the spaces where filming was done. The great difficulty was recording the content to be transmitted without any immediate feedback from students, something that happens routinely during face-to-face classes.

MOOCs can challenge an institutional preference for building capacity over outsourcing. The capacity to argue, produce, and learn in a group of peers is one of institutions' primary goals (Daradoumis et al., 2013). Collectively, MOOCs are increasing people's ability to envision and promote future change. Instead of being formed by the digital age, to shape it.

The organizational structures built around the development of MOOCs provide areas for teaching and learning experimentation and innovation. In addition, teams have started challenging ingrained presumptions about higher education as they have been separated from conventional organizational procedures and structures and merged in a team-based configuration. In the digital age, MOOCs

cleared the path for increasing experimentation with innovative ideas in higher education (Tirthali and Ed, 2014).

MOOCs creation process

Several of the interviewees detailed the process followed in creating their MOOCs. Some themes stood out, such as the steep learning curve, at times causing some discomfort, the great demands on time for their development, the effort to design and create content, and the need to work in multidisciplinary teams (Casanovas, 2013; Khedhaouria and Jamal, 2015).

The organisational dimension of the MOOCs was also present, highlighting the support or disapproval of the project, and creating complex tensions to manage and overcome. Some interviewees reported fewer positive experiences with hierarchies, while others felt that it was more of a personal effort without much recognition from their institutions.

The process of creating MOOCs shows that the teacher is no longer the prima donna who works in isolation but has to be part of a much broader team, in which several different skills are necessary to produce an excellent final result. As a result, the teacher loses some control of the teaching process but can do something new and enrich his teaching skills.

The experience everyone had with MOOCs gave them a clear understanding of what was needed to create and exploit them. Naturally, many were surprised by the time requirements and others were surprised by unexpected difficulties such as the lack of immediate feedback that face-to-face classes allow. However, their experiences gave them a comprehensive view of the key resources that were necessary for MOOCs projects, including the methodology and processes needed to create storytelling and contents, external links either with funders or with content or technology companies, and the relationship with MOOC platforms. In summary, participants got a good idea of the business model of MOOCs and what they can represent for their institutions, the platforms that promote them, companies and society. The relationship with platforms (e.g., with Coursera or

FutureLearn) and with external providers (e.g., technology or multimedia services) is in line with Shafer et al.'s (2005) concept of value network.

MOOCs role in the digital future

It could be affirmed from the interviews that there is a fresh and heightened institutional awareness about the digital future (Anderson, 2015), as seen in the literature review and findings chapters. Internal debates and interactions, institutional documents, and investments in resources and technologies show a growing interest in more digital teaching models (Martin, 2012). The faculty involved in creating MOOCs gain a refreshed view of the vast existing knowledge in content design and education (Firmin et al., 2014). MOOCs allowed experimenting blended learning, a well-known strategy to increase active learning (Bocconi and Trentin, 2015). MOOCs are an opportunity to rethink the profession of teaching (Daniel, 2012a). At universities, research enjoys a position of prestige, but MOOCs have contributed to bringing attention to the teaching and learning process on campuses.

MOOCs course design demands new team-based arrangements (Anderson, 2015), as has been described previously and in the findings chapter. Collaboration throughout the university is necessary to create MOOCs, and this kind of collaboration is uncommon in higher education. Each MOOC is developed in collaboration with faculty (the subject matter experts), software engineers, learning researchers, librarians, and videographers. Each specialist may offer their skills via the collaborative approach to create new learning environments. Many enjoyed the change from teaching as a single endeavour to a collective effort, built our capacity, and eventually opened our eyes to team-based techniques that may be used in situations outside of MOOCs (Klobas, 2014).

The conflicts and early effects of MOOCs on higher education are evidence that the change is challenging (Finkle and Masters, 2014). Successful formats may be those that combine the entire educational spectrum, likely based on adaptive (Daniel, Cano and Cervera, 2015) or competency-centred learning: liberal arts, professional training, and continuing education (Ng, 2015).

Some students may bypass traditional higher education altogether, impacting educational institutions. Higher education institutions that base their strategy on international students may have difficulties if these young people can get qualifying employment with a MOOC credential. That is particularly evident in digital, accounting, data analytics, design and arts, where the boundary between practice and theory is blurred and learning by doing is the norm. Smaller institutions that do not focus on certain topic areas can be most affected (Kedem and Puchalla, 2012). Focusing on employability and establishing connections between students and employers is necessary for a good MOOC platform (Steffens, 2015).

A "hype cycle" was started in 2012 with the introduction of the main MOOC sites (Fischer, 2014), with forecasts of universal educational access and university upheaval. Critics were able to reduce the enthusiasm within a year after being given complex data, such as the fact that less than 15% of those who sign up for MOOCs finish them (Daradoumis et al., 2013), and the majority of students already have degrees (Radford, Coningham and Horn, 2015). MOOCs may ultimately influence higher education, according to the present consensus (Karesenti, 2013).

5.2.3 RQ3: To what extent do MOOCs affect the business model of the business schools?

In the third category of findings, it was possible to understand the impacts of the introduction of MOOCs on the business models of business schools, the main objective of the investigation. Johnson's model (2010, p.24) was used as a theoretical framework to structure the findings. The results found are relevant to various elements of the business model framework, including the value proposition, key processes, key resources and surplus formula that will be detailed next.

Change in the business school business model

The introduction of MOOCs represents a change in the value proposition for current and potential customers insofar as it broadens the offer of institutions, allowing them to reach new customers differently. Impacts were identified in the two key processes of teaching and marketing. Teaching is a core activity of business schools, and teaching via MOOCs is different, so those who participated in their development acquired knowledge and skills that enriched their ability to teach. For many schools, marketing is an increasingly necessary activity to reach, entice and retain customers. MOOCs are a new and significant marketing tool, which, being based on digital technology, have enormous advantages over other more traditional techniques. Lastly, and associated with key processes, the need to create or access new key resources to create MOOCs was clearly identified, including human resources with new skills, technological resources, facilities and coordination of teams.

While the findings identified current impacts on various elements of the business model, for reasons related to time, resources, and access to information, it was impossible to determine the degree of these impacts on institutions' "traditional" business models. Furthermore, some of these impacts will only become fully visible over several years and depend on numerous other variables in addition to MOOCs.

Business model perspective

One of the exciting aspects of the interviews was the familiarity of the interviewees with the concept of business model. Several gave their views on what they understood as business models, reinforcing the idea of the concept's popularity (Klang et al. 2014; Zott et al. 2011; Rasmussen 2007) as well as its ambiguity (Baden-Fuller and Morgan, 2010; Johnson, 2010; Lanzolla and Markides, 2021). Some interviewees when informed of the scope of research (the impact of MOOCs on the business model of business schools) gave immediately their views on the possible impacts. Some also responded from the point of view of the MOOCs business model (Burd, Smith and Reisman, 2014), the associated uncertainties,

and to what extent they could contribute to the goals of business schools. All participants expressed interest at the end of the interviews in knowing the results of the research. They mentioned that this could help them better understand the phenomenon of MOOCs, the business model of business schools, and how they could help improve business results, as stated by Zott and Amit, (2007) and Nenonen and Storbacka, (2010).

According to Foss and Saebi (2017), the study of business models since 2000 has emphasised the profit formula and the business value proposition. From the interviews greater relevance was given to the value proposition by the interviewees, only few spoke about profit or surplus. This is due to the striking disparity with the “traditional” value proposition of business schools, in which dimensions such as online vs face-to-face, free vs premium cost are profoundly different. On the other hand, it was interesting to notice that many quickly looked at the new value proposition to feed the traditional value proposition, either with new students or for a greater reputation for the school.

One surprising aspect, due to the frequency with which it was mentioned, was the opportunity that MOOCs represent for schools and universities to fulfil their mission of disseminating knowledge in society and in concrete individuals who wish to learn (Reich and Ruipérez-Valiente, 2019), which is something connected to the value proposition. The concern with the profit formula stemmed from the sustainability of MOOCs, whether in their initial creation or as a mechanism for generating extra revenue. Here, there was also a concern to see how this project could indirectly feed the traditional profit formula, for example, with new students or through the creation of a new online offer. It can be seen here contrasting business logics in which one feeds the other.

Some of the interviewees had a clear idea of the best strategy and business model for their institutions. In one interview the interviewee claimed that the focus should be on research because that allowed schools to develop, creating valuable and distinctive teaching. MOOCs could help with the dissemination part of teaching and free up time for faculty to do more research. It was interesting to see in the interviews that some had a clear idea of what elements of their

institutions' business model should be focused on in order to ensure the sustainability and growth of the whole. In general, respondents had a clear idea of the core aspects of the business model and how their institutions create, capture and deliver value. Several participants had a clear idea of what elements of the business model their institutions should focus on and how these elements contribute to the whole. Research was frequently mentioned, as were the ability to teach innovatively and more appropriately to younger generations and online, using more technology in teaching.

From the interviews, it was possible to identify the three most common dimensions mentioned by Zott et al. (2011) that the business model can help to address or explain. First was delving into the role of e-business and IT in the workplace. Several interviewees spoke of the growing importance of technologies in their work tasks. One of the main drivers of the interviewed was the chance to learn a new way of teaching in the context of MOOCs using technology. This change makes it possible to reinforce key elements of the business school business model, such as teaching or the digital relationship with students. Secondly, starting from the challenges facing institutions, introducing more technology would help address the issues of value generation, competitive advantage and performance.

The respondents' current roles, background, and previous experience put the holistic view of business models and experience with MOOCs on quite different planes. Those in management roles look at MOOCs from a tooling perspective for one purpose: experimenting and learning from an institutional point of view. This process makes it possible to innovate in some elements of the business model, like the value proposition, including more online education. On the other hand, those who teach look to MOOCs as the development of new ways of teaching, whether fully online or using flipped classroom methodologies, which enable teaching more and better. Finally, those with a more technical focus were more concerned with the technical connection between the various components and how recent technologies can change teaching and bring new features such as distance learning with virtual reality. They also look to MOOCs as a field of experimentation and evaluation of trends because the digital trail of the participants makes it possible to measure participation in a non-intrusive way.

The study reinforced the chosen business model definition

Naturally, the research carried out proved to be in line with the definition of the chosen business model: “a system of interdependent organizational activities centred on a focal firm through which it creates and captures customer value” (Zott and Amit, 2010) and which is “made up of components, linkages between components and dynamics” (Afuah and Tucci, 2001). Business schools are the focal firms that create and capture value from various interconnected organisational activities, e.g., teaching, attracting customers, increasing reputation, and innovating. These activities are also carried out by different elements, e.g., faculty, instructional designers, and those who have critical dynamics and interconnections. The system and holistic view that the business model concept represents were visible in the institutional objectives through the introduction of MOOCs and the main changes in the business model identified in the findings chapter. However, and perhaps due to the lack of knowledge or misinterpretation, the definition could be improved by clarifying that “organisational activities” should include internal activities and others carried out by organisations external to the focal firm. That is evident in the case of MOOCs and includes, for example, activities developed by MOOC platforms.

In terms of the dynamism of the business model, following Vermolen's (2010) view in which it is crucial to identify the most critical components and those most conducive to change, the investigation highlighted those components that can be considered most important. Within the scope of the research questions chosen, these include the value proposition or the key teaching activity and how they change with the introduction of MOOCs innovation. That is an example of the introduction of technology that must be integrated into an existing business model, creating value for the whole (Chesbrough and Rosenbloom, 2002).

Furthermore, when it comes to dynamism, it is essential to look at the inductive model derived from data (see Figure 4-4 Inductive model from data) that shows the interconnections and interactions of the elements of the research, the business model impacts and the expected results.

MOOCs in the business school's business model

Several authors (Zott and Amit, 2007; Spector and Santos, 2009; Casadesus-Masanell and Ricart, 2010) stated that business models are essential for start-ups and established companies. This study focuses on the second case. The importance of studying the business model of business schools and how MOOCs can contribute to the evolution of the business model, adapting it to changing circumstances, to the new needs of customers and other stakeholders to ensure sustainability became evident in interviews. In the case of start-ups, an ongoing trial and error process is necessary until the most suitable model emerges (Zott and Amit, 2007), while in the case of established organisations, it may be more beneficial to follow an adaptation process (Saebi, Lien and Foss, 2017).

From the interviews, it was clear the significance of the business model for the promoters of MOOCs to obtain the necessary resources in their institutions for their development. In other words, it is necessary to base this type of initiative on a business case that can be appealing from the point of view of the institution's business, either in the present or in the future. Although the business model of MOOCs and their interconnection with the "traditional" model of schools may not be evident from the outset, several interviewees mentioned that they could not stay behind, being a competitive necessity (Bhatt and Grover, 2005). There is a trend and they had to experiment in order to be in a better position to take advantage of the technology or of the business model that emerged from the MOOCs.

Johnson's framework application

As mentioned, Johnson's (2010, p.24) framework was used as a reference for the investigation. This allowed the investigation to be better structured and for findings to be organised, highlighting some of the components of the model used.

This research raised the compelling question as to whether it would be appropriate to remove the word "customer" from a central element of the framework: the customer value proposition. This change would have some advantages, insofar as

it would provide a more comprehensive model applicable to organisations that do not have customers but users or beneficiaries. This is the case, for example, in business schools. Another advantage would be a greater focus on the value proposition itself.

From the data it was amply evident that MOOCs extend the value proposition because MOOCs have a value proposition distinct from the traditional proposition of business schools. According to the framework, it must be considered the target “customer”, the job to be done, and the offer in this component. Regarding the target “customer”, there was an overlap between the schools' current customers and a much broader market, as with MOOCs, many geographic and temporal barriers are reduced. Regarding the job to be done, the several tasks for business school clients include learning, which is obviously a central aspect of MOOCs (though the effectiveness of this learning can be questioned by the lack of some elements of face-to-face learning, such as group learning or the opportunity to contact other elements of the educational environment). On the other hand, online studying in good schools and at the pace of each one can be decisive for the job to be done. However, the job of socializing and networking is much more complex to achieve online, and its depth can be less. The apprenticeship certification job is quite different as the value of MOOC degrees is still poorly recognized.

Another core component of the framework are key processes and key resources. It was found that MOOCs change key processes such as teaching and marketing in business schools. Teaching through MOOCs requires distinct preparation and development, according to rules and restrictions that need to be considered in a different context. It is much more team teaching, more directional in approach and without immediate feedback from the learner. Regarding the marketing process, MOOCs are a new tool that allows many more candidates to be reached, reinforcing the institution's image of innovation and removing barriers of access to teaching. The new value proposition and new key processes require the acquisition of new key resources to develop MOOCs, such as technology, multidisciplinary teams, funding and faculty time.

When asked about the impact of MOOCs on the business model, most of the interviewees used expressions such as creation or appropriation of value, very much in line with central concepts of this area of knowledge (see Table 2-1 Synthesis of business model components included in each definition from Appendix 1). That happens naturally because almost everyone works within the business education sector.

The idea that MOOCs could occupy a main place in the business model of business schools, replacing the value proposition of face-to-face teaching, did not arise from the interviews. At this stage, the idea of complementing the offer or of providing a tool at the service of the traditional business model was dominant, which is understandable, not least because it is tough to change business models and these initiatives often fail (Sinfield *et al.*, 2012).

Based on the findings, it was possible to confirm that the funding for MOOCs does not come from participants but from promoting entities. One suggested possibility was the sale of certificates associated with evaluations, but that was insufficient. Funding thus came from the schools themselves, from sponsors, or from other entities with common interests, such as associations.

Faced with the question of whether the promotion of MOOCs could reduce the number of school admissions, most responses were negative because there is a clear idea that they are quite different offers with different targets. While there could always be some reduction, it was considered that the possible reach and word of mouth would compensate for any possible reduction. The idea arose that this impact could be different for different schools. Those at a lower level of quality could be more affected because their value differentiation compared to MOOCs could be inferior.

Business model innovation and evolution

The data collection process supported the organizational objective of being aware of the context in which they operate, the drivers of change and the need to be prepared. Christensen (2001) states that organisations must align their strategy

with the context, but this, in turn, is constantly changing due to market, technological and resource changes, among others (Morris, Schindehutte and Allen, 2005; Gerasymenko, De Clercq and Sapienza, 2015). Learning through experience is better adapted to the specific circumstances of each institution and prepares key human resources on faculty and management for if the trend of MOOCs gains importance. This learning and preparation help develop strategic sensitivity and responsiveness to these changes (Zott, Amit and Massa, 2011). This sensitivity is developed on two significant levels: at the faculty level, which in business schools are the primary resource for creating value, and at the management level, responsible for organising activities and the strategic definition. This strategic sensitivity becomes even more relevant because it forces us to think about MOOCs in the context of the business model of business schools. If, on the one hand, it is necessary to think about the sustainability of the project, on the other, it is critical to think about how MOOCs fit into the traditional model of institutions or whether they contradict it, generating internal tensions, as mentioned in the interviews, or whether MOOCs allow for the coexistence of hybrid models (Pache and Santos, 2013).

The development of this strategic sensitivity also helps decision-makers identify whether changes are transient trends in context or profound changes (Letscher, 1990; Billsberry, 2013), not always evident at first, and which can affect central elements of the business model. This disparity in types of change requires calibrated responses. In this context, it is understandable that some schools became directly involved with MOOCs, which may eventually prove to be a fad, or which may be an example of a deeper trend that is the growth of online teaching, whether owing to issues relating to generational change, globalisation or technology.

Direct involvement in MOOCs and the development of this strategic sensitivity also allow opportunities to be identified at the point of interconnection of MOOCs with the traditional business model (Andreini *et al.*, 2021). One example was the use of MOOCs by one of the schools interviewed to allow their students their training at any time of the year and not just the usual periods. This made it possible to lock in candidates and allow them to learn at their own pace and level out

students' knowledge upon entry. Another example was the use in the school campus screen videos of faculty teaching in MOOCs. Those videos were seen by students, their parents, visits and executives that went to the school giving a sense of modernity and innovation.

According to Khanagha, Volberda and Oshri (2014), the change in the business model can be in the whole or in its concrete elements. In the present investigation, the second has proven more frequent, as it is possible to identify the changes introduced concretely, and to identify a before and after and the consequences of these changes. It was therefore possible to find some results from these changes, but as the interviews focused on a moment in time, the full results were not yet visible.

Triggers of change

This study made it possible to understand the triggers of change and the success factors as advocated by Linder and Cantrell (2000b). The triggers were studied in two complementary planes: the institution and the individual. From the interviews, the most relevant trigger was the institutional one, naturally triggered by individual inputs and decisive for the MOOC project's evolution as far as it supports and even often dynamizes it with concrete objectives to be achieved. It was possible to verify several dynamics driving change: institutions that decided to invest in MOOCs because they aligned with their reputational and learning objectives, increased their marketing tools, allowed them to access new markets and pursue new technologies, among others; individuals who were challenged to participate in MOOCs, or who identified MOOCs as a project to undertake; external organisations, such as MOOC platforms or funders that encouraged institutions to develop MOOCs (F M Hollands and Tirthali, 2014).

Two types of MOOCs success factors can be identified: organisational factors and those relating to the MOOCs themselves (Sánchez-Vera, León-Urrutia and Davis, 2015). Organisational factors included institutional and senior faculty support, availability of resources, and good integration in the institution's global strategy. In terms of the MOOCs' success, having good storytelling was crucial for the

participants' continued participation. Also critical was an excellent educational plan and engaging and quality content. Monitoring over the course of the MOOC was critical to energise forums and answer questions that arose. A good title was referred also as very important.

Starting from the two main types of business model dynamics described by Saebi, Lien and Foss (2017), adaptation and innovation, the first results from an external trigger that leads to gradual evolution and the second seeks to change market conditions. From the findings, the present study is in line with adaptation. MOOCs, and the evolution of online learning in general, are the external trigger that can lead to business model change over time, including gradual evolution and learning.

Dynamic and static views

As De Reuver, Bouwman and MacInnes (2009) mention, the study of business models initially focused on a static view of organisations before turning to a more dynamic view over time. Therefore, this study starts from a point-in-time perspective. However, the dynamics for the introduction of MOOCs, which elements of the business model impacted, and the intended results were evident in Figure 4-2 Grounded model from data. This model makes it possible to see the interconnection between the various study elements, creating the basis for evaluation of the MOOCs initiative and to what extent the objectives and results obtained are appropriate in each institution.

According to Ahokangas and Myllykoski (2014), opportunities and competitive advantages are constantly evolving and require a continuous process of discovery and exploration by institutions. In the present study, MOOCs are an example of an opportunity that technology and human creativity have brought to the education landscape. They represent a disruption in the traditional way of accessing education and training, which essentially consist of a face-to-face format (Graham and Dziuban, 2008; Daniel, 2012b). As the present study shows, because it is both an opportunity and a threat for business schools, some have decided to enter a discovery process into MOOCs for a variety of reasons. MOOCs may also be a threat insofar as they rob schools of potential business and may be growing a competitor,

even if this is not yet evident, as many say it is quite different from the traditional business school model (Terwiesch and Ulrich, 2014). This discovery and experimentation process is critical to being able to seize the opportunity, reduce the threat, and explore the potential of MOOCs as a source of competitive advantage or to gain experience in the type of countermeasures that may need to be implemented if they become a threat. This discovery process and better preparation to deal with the phenomenon are necessary to decide whether or not to change the business model, mainly because changes can jeopardise the continuity of organisations (Kaplan, Sensoy and Stromberg, 2009).

Some interviews showed that the involvement of business schools in MOOCs was aligned with a planned strategy of investing more in technology and online education if the trend consolidates and was aligned with the wishes of the clients (Bock *et al.*, 2012). It may be essential to consider that it is not always best to meet what customers want because it may be better in the short term, satisfying the customer, but not in the long term. Frequently it is more important to teach a way of thinking, methodologies and techniques that remain useful and valid over time and in different circumstances than a technique applied in only very concrete conditions, which may be more immediate. This is one of the dilemmas of business schools: teaching to produce immediate results, that is, an almost immediate return to training, in contrast to teaching that lasts over time, providing a more profound preparation, sometimes more abstract, without short-term results, but that over time ends up bringing more value to the individual and their organisation.

Frequently the literature says that it is critical to satisfy customers requests (Bitner, Booms and Tetreault, 1990), but one of the interviewees mentioned that universities and business schools make a big mistake by focusing narrowly on what companies need. This mistake can lead to teaching for the execution of a particular role and not preparing for other roles or a more holistic role within organisations, thus limiting employees' future growth. This error also becomes notable if business schools limit themselves to transmitting knowledge and do not develop new relevant knowledge that enables more remarkable future growth for those they train.

Business model impact

The literature review shows that impacts in business schools business model can be of very different degrees and natures (Saebi, Lien and Foss, 2017). Regarding the findings, two types of impact can be considered: external impacts arising from the existence of MOOCs and internal impacts arising because schools decide to develop them.

In terms of the external impact of MOOCs on business schools, different perspectives emerged from the interviewees. However, in general, the assessment was that MOOCs had had a limited impact as they were not yet stable (Al-Imarah and Shields, 2019). Although they have some crossover with the characteristics of business schools, MOOCs are still quite different in terms of the quality of learning, the target, networking and the quality of certification. However, there was a feeling that MOOCs were here to stay and that, over time, they could have a significant impact if schools did not consider them, as this could drive away potential customers who were attracted to the differentiating characteristics of MOOCs. On the other hand, MOOCs were seen as a way of experiencing the digital education interviewees felt was being implemented, especially among younger generations.

It was possible to study the internal impact on schools that decided to develop MOOCs in detail through the interviews. The main impacts identified related to the change in the value proposition, teaching and marketing. It was possible to verify that some impacts went beyond the scope of the MOOCs. For example, some faculty stated that the experience of the MOOCs made them change their way of teaching in-person, using more digital resources or teaching in shorter blocks because of the shorter attention span among students (Pomerol, Epelboin and Thoury, 2015). Still others began to use other methodologies such as the flipped classroom, making digital content available in advance, making face-to-face classes more interactive, and developing other communication or negotiation skills.

Some impacts can be positive and others negative (Muzyka, De Koning and Churchill, 1995; McKeown and Philip, 2003). From the interviews the positive impacts include reaching more potential clients, developing new skills, being prepared, and gaining flexibility in the institution. Negatives included the level of investment of time and money required, which could be used on other tasks of more significant added value. For example, a significant potential negative impact was helping to develop competition from MOOC platforms that may end up poaching customers from business schools.

Business model change process

Based on the interviews and findings, it is possible to identify the various phases of introducing MOOCs in business schools (Wirtz and Daiser, 2018; Balocco *et al.*, 2019; Andreini *et al.*, 2021). The initial phase of identifying changes arises from the knowledge of new technology (MOOCs), the importance that academia and the press attribute to it, or the type of players involved in the process, for example, top schools. As the number of MOOCs, participants, universities and schools involved grows, so does the notoriety of the phenomenon and the interest in getting to know it better and perhaps trying it out so as not to miss the train. It was clear from the interviews that it is often the faculty most receptive to innovation that most quickly adheres to and drives this type of project. However, in some cases, it is the management of the schools that, seeing their evolution and the risk of not keeping up, seek to learn and experiment.

The design phase of the implementation took many forms, but some patterns were registered here. There was a need to involve several institutions in the process. These institutions contributed on several fronts, such as providing the platform to host the MOOCs, the technical and technological resources for recording, editing and producing the digital elements of the MOOC and in some cases, even financing the project. Another pattern was the need to create project teams and elements with multidisciplinary knowledge that contributed to the various phases of the MOOCs (Daradoumis *et al.*, 2013). In addition, it was necessary to obtain the approval of the various hierarchies of the elements involved. As reported in the findings, this approval was not always easy and created some constraints for

interviewed ones. In turn, this implementation had to foresee the creation of several MOOCs according to commitments made with the platforms, committing several months of work.

Finally, in terms of the results obtained, these can be seen from different perspectives. Contributors to MOOCs usually positively evaluated the results obtained, although not consistently recognized by their superiors. The school management also positively evaluated the results achieved, namely reputation, scope and preparation of their people for more technological and online teaching. That assessment was critical for subsequent decisions of developing new MOOCs.

MOOCs as a threat to business schools - research refocus

Some assert that MOOCs may constitute a threat to smaller institutions (Moody's, 2013), but a more tenable argument is that MOOCs provide smaller schools chances because of their capacity to boost their worldwide awareness and generate new sources of income (Ong and Grigoryan, 2015b). MOOCs might steadily lower the cost barrier, depriving smaller colleges of a significant portion of their student body (de Langen and van den Bosch, 2013). If you take the strength of the brand into account, this makes even more sense (Selwyn and Bulfin, 2015). This is crucial online, especially for students from underdeveloped nations, and you have a marketplace that may turn into an oligopoly.

One of the initial drivers of this research related to the impact of the possible loss of revenues by business schools following the emergence of MOOCs. In other words, business schools were creating an offer that would turn against themselves and which, at first sight, could be seen as paradoxical. However, it was interesting to note how the implications of this concern were more subtle in terms of their effect on the business model. Indeed, the effect of MOOCs was not in the end so paradoxical, with schools experimenting, learning and developing new offers that could transform a potential threat into a new source of revenue, either direct or indirect, reinforcing their traditional business model.

Limitations on business model development

Chesbrough (2010) identifies three impediments to business model development: knowledge, prevalent reasoning, and leadership, while Froud et al. (2009) identified external and institutional limitations. While these limitations have already been extensively covered in previous paragraphs, it is essential to mention that one of the limitations is that MOOCs are a recent phenomenon, not yet well understood, and for which there is still no evident business model. In addition, the MOOC platforms themselves are also continually evolving their business model, as stated by several interviewees. Another limitation is the lack of uniformity in what

Business model change outcomes

Following Osiyevsky and Dewald (2015), change in the business model can have two generic intentions: 1) explorative adoption of a disruptive approach, and 2) explorative strengthening of the existing approach. From the findings the presence of these two intentions can be identified. From one hand business schools introduction of MOOCs look to explore a disruptive approach that they bring to their business model and significative changes to some of the elements of the business model, for example in the value proposition or key resources or key activities. On the other hand, and, from the findings it could be said that the predominant intention is to explore how to strengthen the “traditional” model. That is clear when the main drivers are increase the school reputation, have a new marketing tool or learning and be prepared.

The outcomes of business model change after the MOOCs introduction can be positive and negative. Most of interviewed MOOC contributors detailed positive outcomes from the MOOCs, like for example, know more and be better prepared for online teaching, increased reach of the school and obtained new digital assets and teams. Nevertheless, some negative outcomes like for example too much time used by faculty that could be doing other value-added activities, increasing school headcount with new teams, the financial resources involved and defocus of

management can be seen. Frequently the negative impacts can be better quantified than the positive ones, which are more qualitative.

5.3 Level of assessment to the research objectives

Given the process developed, the data collected, the analysis carried out, the methodological approach and the results obtained, it can be said that the research objectives were achieved. Of course, it is always possible to go further and add new dimensions and points of view, possibilities which will be examined in the future research proposal. However, it is also essential to focus and concretely define the scope of research so that results have relevance, contribute to existing knowledge, and help managers in their thinking and decisions.

5.4 Outcomes of change: inductive model

From the dynamic analysis of the findings, it was possible to create the inductive model shown in Figure 4-4 Inductive model from data. It can be concluded that this model is in line with the general objective of explorative strengthening of the existing approach established by Osiyevsky and Dewald (2015). In reality, it does not seek to adopt a disruptive approach but instead explores a way to strengthen the existing business model. Extending the training offer makes it possible to obtain some benefits and attract new customers. The two tasks identified in the model aim to strengthen business schools in crucial dimensions of their business model such as reputation, innovation and having a faculty that is better prepared and innovative in the face of technology and market challenges.

In terms of the business model elements, it is also easy to see that the value proposition is reinforced by MOOCs, expanding it in terms of possibilities and target market. MOOCs also reinforce key resource skills and the learning associated with implementing new key processes. With reference to Osiyevsky and Dewald (2015), it is also possible to verify that the introduction of MOOCs was possible because the context was favourable in terms of its reputation and growth and because school leaders agreed to experiment.

While changes in the business model made it possible to create value using new technologies (Chesbrough and Rosenbloom, 2002), they did not lead to a competitive advantage (Christensen, 2001). In turn, the change generated value in the link between information systems and technology (Hedman and Kalling, 2003), accelerating the development of innovative network dynamics (Calia, Guerrini and Moura, 2007), for example, with MOOCs platforms or technological service providers.

5.5 Chapter summary

The structure of this chapter followed the structure of the research questions linking the literature review of chapter 1 with the findings described in chapter 4, identifying dimensions where findings reinforce what is known about each of the three areas under study. Some differences and nuances described substantiate the contribution of this study.

Another implication of this research is the completeness of this canvas and the relative importance of the business model components. Some elements took a much more prominent place than others. Of course, the respondent's position is a fact, but it is still surprising that more information about costs or revenues is missing. Also, the interviewees pay much more attention or place more importance on some aspects. That suggests an ordering of priorities. Not a canvas but a hierarchy.

The study contribution can be summarised that it contributes to an improved knowledge of the business model of business schools and how MOOCs impact in the management education context. Regarding the theoretical contribution it contributes about how the introduction of MOOCs impacts the business model of business schools. In the methodological contribution it shows the successful use of the case study approach with the Gioia methodology. Next chapter describes the thesis contributions. Having contributed to expanding this body of knowledge, my successors must account for this contribution in future research (Phillips and Pugh, 1987). In the next chapter various potential future research areas will be clarified.

Chapter 6 Conclusions

The aim of this study was to explore changes in the business models of business schools following the introduction of MOOCs through the perspectives of those who contribute or participate in their production, management or supervision. The research studied the "why do it", the most relevant dimensions of their impact on business models of business schools, and the limitations and constraints of their introduction. The study was situated in the business school industry. This concluding chapter summarises the study's findings, the contribution made to the literature on business models, MOOCs and business schools, the study's limitations, future research avenues and implications for management.

6.1 Introduction

Based on a literature review of business models, MOOCs and business schools, a qualitative research design was developed to answer the research questions using grounded theory with Eisenhardt approach and Gioia methodology. Data from a case study that included thirty-three interviews and secondary data were collected and analysed. The findings collectively provide a novel understanding of the drivers for the introduction of MOOCs from an individual and institutional perspective, the changing roles of individuals delivering and producing MOOCs and of the several impacts of that introduction in the business schools' business model.

According to the research, the institutional goals for introducing MOOCs include enhancing the school's reputation, developing a fresh marketing tool, and learning and being prepared. In terms of individual drivers, they are learning a new way of teaching, gaining new skills and instructing more people.

In essence, business models' dynamics depend on individuals' knowledge, creativity and ability to recognize the need for change and to promote and implement it through decisions and actions (Cavalcante, Kesting and Ulhøi, 2011; Warner and Wäger, 2019).

Furthermore, the study showed that the impact of the introduction of MOOCs on the business model of business schools is reflected in three dimensions: changes to the value proposition; changes to teaching in the form of added resources, processes, roles and knowledge; and changes to marketing with themes related to reputation, reach and awareness. The results give also working managers insights and improve our theoretical grasp of the "why, what, and how."

According to Markides (2006), it is erroneous to treat different forms of innovation as if they are interchangeable. The results of this study have more significant implications since future research on how business model innovations take place at renowned business schools will need to be more grounded and empirical. In addition, conceptual work that depends on transferring models from other disciplines, like design thinking (Amit and Zott 2014), discovery-driven planning (McGrath 2010) and strategic agility (Yves L. Doz and Kosonen, 2010), is essential to explain and comprehend how business model innovation occurs in practice.

One methodological implication of this study is the relevance of considering, from a qualitative approach, the actors' perspectives in the evolution of the business model. Understanding the drivers of the introduction of MOOCs allowed us to better understand the challenges and opportunities regarding business models and their role in the evolution of business schools. Whether more optimistic or pessimistic, conservative or innovative, the actors' perspective plays an essential role in decision making, and in the commitment to changing the business model. Actors' perspectives determine actions and actions determine change.

The author hopes that the results and ideas from this study will spur other researchers to undertake other empirical research on how business model innovations emerge in the real world, and that the process of developing innovative business models for established organisations will become a bit less challenging.

6.2 Contribution to knowledge

6.2.1 Theoretical contribution

The theoretical contribution addresses the gap identified in the literature review and answers the research questions:

- (1) What drives the adoption of MOOCs by business schools?
- (2) How do individuals perceive their changing roles in the production and delivery of MOOCs?
- (3) To what extent do MOOCs affect the business model of the business schools?

The findings identified two aggregated theoretical categories at the highest level of abstraction: drivers for the introduction of MOOCs in business schools and changes in business schools' business model. By uncovering these two main categories, it was possible to identify the institutional and individual drivers for the introduction of MOOCs in business schools, the individual changed roles and the impacts on three elements of their business model: the value proposition, teaching and marketing. Understanding what drives institutions and individuals to produce MOOCs helps us understand MOOCs themselves.

Answering the first research question: What drives the adoption of MOOCs by business schools?

The drivers for business schools to introduce MOOCs are to enhance their reputation, to create innovative marketing tools, to learn and to be prepared. The individual motives for the introduction of MOOCs are learning a new way of teaching, gaining new skills and teaching more people. There was an awareness that it was a different way of teaching, which involved risks, new investments in people and resources, and without being sure of the best model to make it profitable.

Introducing MOOCs in business schools also addresses some of the criticisms that have been pointed at business schools, such as being too economically oriented, not using technology to enhance teaching, and too closed and elitist. It shows innovation and a way forward.

Answering the second research question: How do individuals perceive their changing roles in the production and delivery of MOOCs?

From the identification of some central tasks of the individuals involved in MOOCs in the literature review and from the research findings, it is possible to identify how the professional tasks of various individuals have changed. These tasks mainly involve teaching, preparation, investigation and delivery, but also include a set of new tasks in a distinct collaborative context.

Teaching is a core activity of business schools, and teaching via MOOCs is different from face-to-face teaching. Those who participated in their development acquired knowledge and skills that enriched their ability to teach. Some interviewees stated that the experience of the MOOCs made them change their way of teaching in-person, using more digital resources or teaching in shorter blocks because of the shorter attention span among younger students. Still others began to use other methodologies such as the flipped classroom, making digital content available in advance, making face-to-face classes more interactive, and developing other communication or negotiation skills.

While the conceptualisation of business models stresses the importance of activities, responsibilities and resources, a transformation from face-to-face to teaching via MOOC involves changes in roles, teams and power, elements covered in the research.

Answering the third research question: To what extent do MOOCs affect the business model of the business schools?

The introduction of MOOCs represents a change in the value proposition for current and potential customers insofar as it broadens the offer of institutions, allowing them to reach new customers differently. Impacts were identified in the two key processes of teaching and marketing.

Teaching is a core activity of business schools, and teaching via MOOCs is different, so those who participated in their development acquired knowledge and skills that enriched their ability to teach.

For many schools, marketing is an increasingly necessary activity to reach, entice and retain customers. MOOCs are a new and significant marketing tool, which, being based on digital technology, have enormous advantages over other more traditional techniques. Lastly, and associated with key processes, the need to create or access new key resources to create MOOCs was clearly identified, including human resources with new skills, technological resources, facilities and coordination of teams.

As the business model concept is intricately linked to organisational structure, processes, resources and activities, the perspective of the concrete actors operating within the business model gave an outstanding perspective of the “why, what and how” of MOOCs introduction in business schools and their implications.

Additional contributions

One of the initial drivers of this research related to the impact of the possible loss of revenue by business schools following the emergence of MOOCs. Business schools were creating an offer that would turn against themselves and which, at first sight, could be seen as paradoxical. However, it was interesting to note how the implications of this concern were more subtle in terms of their effect on the business model. Indeed, the effect of MOOCs was not in the end so paradoxical, with schools experimenting, learning and developing new offers that could

transform a potential threat into a new source of revenue, either direct or indirect, reinforcing their traditional business model.

In addition to the static view of the various impacts, a dynamic view of the impact process was also developed and is reflected in the inductive model that can be found at the end of Chapter 4.

In summary, the theoretical contribution focuses on the reasons for introducing MOOCs from an institutional and individual perspective. Additionally, the contribution covers the changed roles of individuals involved in the process of introducing MOOCs. Finally, the contribution also focuses on how the process of introducing them to business schools was conducted and in which areas they impacted schools, according to the data collected, precisely on the schools' value proposition, teaching and marketing. The research provides a fresh understanding of how business model transformation occurs in business schools when MOOCs are present.

6.2.2 Methodological contribution

In terms of methodological contribution, the successful use of two complementary and mixed methodologies involved the case study method and the Gioia method, as described in Chapter 3.

The case study methodology is widely used and its usefulness has been proven to advance knowledge in many areas of knowledge. The Gioia methodology has also been increasingly used in recent years and has been developed a lot in terms of qualitative analysis. While this was not the first instance of the two methodologies being used jointly, the positive results of this study are a further demonstration of the applicability of the research design.

Having contributed to expanding this body of knowledge, my successors can account for this contribution in future research (Phillips and Pugh, 1987). The next section will thus include an explanation of the limitations of this study and outline further research avenues.

6.3 Limitations and further research

While there was an effort to ensure the quality of the thesis, there are always limits in choices and errors in the process and in the outcomes. There is awareness of these limits, and efforts will be made to reduce them in future investigations. Thus, with all its virtues and shortcomings, the complete study endeavour serves as a learning tool.

6.3.1 Limitation of data collection

Selection of participants

The initial screening of participants involved two MOOC platforms, Coursera and FutureLearn, and that decision introduces bias concerning the type of participant that is likely to take part in the study. At the time of the data collection, schools from Europe and North America were overrepresented on these platforms, and there is an absence of non-English speaking business schools from other parts of the world. Future research may focus on MOOCs in other languages and schools where the principal language is not English. Developments in the Chinese and Spanish-speaking world are particularly interesting.

The number of participants

This project applied theoretical sampling of participants that meet selection criteria until no new insight emerged from the data. This approach is consistent with guidelines provided by multiple authors (e.g., Strauss, Corbin, Miles, Hubert). Nonetheless the research sample included 33 interviews, thus providing only a partial perspective of the phenomenon in question. Further research may delineate the samples more precisely considering specific geographical region, different institutional arrangements, and could take a closer look at schools that depend on a particular incomes stream or on undergraduate degrees.

The interviews deployed in this analysis offer the perspectives of academics and further research may focus on other individuals, such as the views of course administrators, technology experts, or school managers.

6.3.2 Limitation of data analysis

All data was coded by one person. This prevents the use of some techniques to ensure reliability such as interrater coding. While the use of data of multiple types such as documentary resources in addition to interviews provides some safeguarding against bias, analysis ultimately remains subjective.

6.3.3. Further research

Although the findings have revealed fascinating insights into the topics under study, several avenues for future research can be identified.

One avenue of future investigation could start from the study's limitations, with the inclusion of other countries providing a broader geographic perspective. Other types of institutions could also be included, such as consultants, companies and associations linked to education. This could improve analysis of the impact of MOOCs in different institutions, identifying patterns and distinctive aspects. It would also be helpful to understand the drivers of these institutions for introducing MOOCs and to what extent they are achieved.

A second possible avenue of further research would be a temporal follow-up of MOOCs within the institutions that introduced them. This more extended period would make it possible to assess the results and to determine to what extent they were in line with initial objectives. Significant changes in strategy could be analysed, including the evolution or interruption of the MOOCs offer. This analysis over time would allow us to assess the extent to which the schools' reputations had evolved positively and whether employees were better prepared for online teaching and the use of recent technologies, such as MOOCs.

A third relevant avenue for future research could be the evolution, positive or negative, of the image that schools develop through their offer of MOOCs, potentially as a result of offering a greater number of MOOCs. This could help schools create and develop a concept of lifelong learning, which is increasingly important to earn income and maintain a connection with their alumni.

A fourth avenue of research could be to investigate how faculty changed their teaching techniques after participating in MOOCs and whether these changes significantly impacted their teaching methods and student learning. This could include investigation of the increased use of digital materials and elements such as recording lessons, reviewing concepts and improving access.

A fifth avenue of further research could be identifying success stories in the introduction of MOOCs in business schools. Some interviews showed a level of relative satisfaction with the results achieved. Identifying the factors at the origin of this success could produce fascinating insights and help develop prescriptive guidelines for the introduction of MOOCs.

A sixth avenue could be an examination of business schools as centres of power that link various players in the society in which they operate. For example, supposing that MOOCs reinforce business schools' reputation for innovation and represent a new way of reaching more people, MOOCs may serve to strengthen the schools that are also being strengthened in terms of power centres. This connection of MOOCs to strengthening business schools as centres of power could be investigated further.

6.4 Managerial implications of the research

This research contributes to improving management practice insofar as it provides fruitful insights for business schools. The business model of business schools may be seen from a wider perspective as a consequence of the study's findings, namely, through the impact caused by the introduction of MOOCs. By integrating this broader view into their innovation and development strategies, school directors can pursue digital and teaching strategies based on this study's findings. The main

recommendation raised by this study is the need to understand the drivers of the introduction of MOOCs and the potential impacts on the value proposition, teaching and marketing of the school. This recommendation is made in the interest of helping business schools fulfil their mission by creating and delivering value to the individual, the company and society.

This research also allows for a better understanding of the business model of business schools, how the elements of this model can change, and why and how schools introduce MOOCs in their offer and the results of this.

The reasons for the introduction of MOOCs emerge from a set of positive and negative trends that affect many business schools, so it is important to understand these reasons and why the introduction of MOOCs may be a response to these trends. In this sense, this knowledge allows schools to identify countermeasures against threats and ensure that MOOCs take advantage of positive trends, such as increasing the use of technology and online classes in the context of the covid-19 pandemic.

It is also essential to understand the personal reasons that lead faculty to want to create MOOCs. These personal motives can be aligned and enhanced if supported by a clear strategy within the institution. However, these motivations can also emerge from a desire to create a personal brand or notoriety that gives faculty more value in the market, where there is a shortage of professors (especially of so-called “star faculty”). Understanding these personal reasons by business school management can help create incentives for promoting similar projects.

Knowledge of the various dimensions of the impacts of introducing MOOCs in business schools is truly relevant for any decision to proceed with similar projects. Naturally, it is necessary to contextualise the reality of each school. Understanding the results and positive characteristics of other projects allows the concrete reality of each institution to be considered.

Thank you for your interest and for reading!

Appendix list

Appendix 1	A selective overview of business model definitions (ordered by year and author name)
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Appendix 1 - An overview of business model definitions

N.	Author(s) and years	Definition
1	(Timmers, 1998)	The business model is “an architecture of the product, service and information flows, including a description of the various business actors and their roles; a description of the potential benefits for the various business actors; a description of the sources of revenues” (p. 2).
2	(Mahadevan, 2000)	A business model is a unique blend of three streams that are critical to the business. These include the value stream for the business partners and the buyers, the revenue stream, and the logistical stream. (p. 59)
3	(Afuah and Tucci, 2001)	A business model is the method by which a firm builds and uses its resources to offer its customers better value than its competitors and make money doing so. It details how a firm makes money now and how it plans to do so in the long-term. The model is what enables a firm to have a sustainable competitive advantage, to perform better than its rivals in the long term. (p. 3-4)
4	(Amit and Zott, 2001)	The business model depicts “the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities” (p. 511).
5	(Weill and Vitale, 2002)	A description of the roles and relations among a firm’s consumers, customers, allies, and suppliers that identifies the major flows of product, information, and money, and the major benefits to participants.
6	(Chesbrough and Rosenbloom, 2002)	The business model provides a coherent framework that takes technological characteristics and potentials as inputs and converts them through customers and markets into economic inputs. The business model is thus conceived as a focusing device that mediates between technology development and economic value creation. (p. 532) It “spells out how a

		company makes money by specifying where it is positioned in the value chain” (p. 533)
7	(Magretta, 2002)	Business models are “stories that explain how enterprises work. A good business model answers Peter Drucker’s age-old questions: Who is the customer? And what does the customer value? It also answers the fundamental questions every manager must ask: How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?” (p. 4)
8	(Dubosson-Torbay, Osterwalder and Pigneur, 2002)	The architecture of a firm and its network of partners for creating, marketing and delivering value and relationship capital to one or several segments of customers to generate profitable and sustainable revenue streams.
9	(Osterwalder and Pigneur, 2004)	A conceptual tool that contains a set of elements and their relationships and allows expressing a company’s logic of earning money. It is the description of the value a company offers to one or several segments of customers and the architecture of the firm and its network of partners for creating, marketing and delivering this value and relationship capital, to generate profitable and sustainable revenue streams
10	(Morris, Schindehutte and Allen, 2005)	A business model is a “concise representation of how an interrelated set of decision variables in the areas of venture strategy, architecture, and economics are addressed to create sustainable competitive advantage in defined markets” (p. 727). [...] It has six fundamental components: Value proposition, customer, internal processes/competencies, external positioning, economic model, and personal/investor factors.
11	(Shafer, Smith and	“A representation of a firm’s underlying core logic and strategic choices for creating and capturing value within a value network” (p.202)

	Linder, 2005)	
12	(Chesbrough <i>et al.</i> , 2006)	At its heart, a business model performs two important functions: value creation and value capture. First, it defines a series of activities that will yield a new product or service in such a way that there is net value created throughout the various activities. Second, it captures value from a portion of those activities for the firm developing the model. (p. 108)
13	(Johnson, Christensen and Kagerman, 2008)	Business models “consist of four interlocking elements that, taken together, create and deliver value” (p. 52). These are: customer value proposition, profit formula, key resources, and key processes.
14	(Baden- Fuller <i>et al.</i> , 2008)	The logic of the firm, the way it operates and how it creates value for its stakeholders
15	(Baden- Fuller and Morgan, 2010)	We define the business model as a system that solves the problem of identifying who is (or are) the customer(s), engaging with their needs, delivering satisfaction, and monetizing the value.
16	(Casadesus- Masanell and Ricart, 2010)	A business model is [...] a reflection of the firm realized strategy.
17	(Teece, 2010)	A business model articulates the logic, the data and other evidence that support a value proposition for the customer, and a viable structure of revenues and costs for the enterprise delivering that value (p.179).
18	(Teece, 2010)	How a firm delivers value to customers and converts payment into profits
19	(Zott and Amit 2010)	The business model describes the system of interdependent activities that are performed by the firm and by its partners and the mechanisms that link these activities to each other

		<p>... a system of interdependent activities that transcends the focal firm and spans its boundaries.</p> <p>A business model can be viewed as a template of how a firm conducts business, how it delivers value to stakeholders (e.g., the focal firms, customers, partners, etc.), and how it links factor and product markets. The activity systems perspective addresses all these vital issues [...]. (p. 222)</p>
20	(Demil and Lecocq, 2010)	<p>The way activities and resources are used to ensure sustainability and growth.</p> <p>Generally speaking, the concept refers to the description of the articulation between different BM components or 'building blocks' to produce a proposition that can generate value for consumers and thus for the organization. (p. 227)</p>
21	(Yunus, Moingeon and Lehmann-Ortega, 2010)	A value system plus a value constellation
22	(Osterwalder and Pigneur, 2010)	A business model describes the rationale of how an organization creates, delivers, and captures value. (p. 14)
23	(George and Bock, 2011)	<p>[...] a business model is the design of organizational structures to enact a commercial opportunity. (p.99) [...] three dimensions to the organizational structures noted in our definition: resource structure, transactive structure, and value structure. (p.99)</p>
24	(Amit and Zott, 2012)	A bundle of specific activities - an activity system - conducted to satisfy the perceived needs of the market, along with the specification of which parties (a company or its partners) conduct which activities, and how these activities are linked.

25	(Onetti <i>et al.</i> , 2012)	Relatively formal illustration of how a firm integrates its core activities with location and modality through its strategic and operational intentions.
26	(Zott and Amit, 2013)	The system of interdependent activities that are performed by the firm and by its partners and the mechanisms that link these activities to each other.
27	(Fielt, 2013)	A business model describes the value logic of an organization in terms of how it creates and captures customer value.
	(Arend, 2013)	We define the business model as a useful representation of how the organization creates value through transforming and transferring matter, by drawing on available factors, fuelled by an identifiable economic engine.
28	(Wirtz <i>et al.</i> , 2015)	A business model is a simplified and aggregated representation of the relevant activities of a company.

Appendix 2 - Main interview schedule questions

1. Could you explain me how did you get in the world of MOOCs?
 - Personally
 - Institutionally
 - Why do you said yes?
 - What were the main doubts?
2. Did you get the expected results?
3. Do you think that the “institution” got the expected results?
 - More visibility and brand awareness
 - More enrolments
 - New capabilities in in the faculty and the development of new roles
4. Do you think MOOCs change key processes or need new key resources in universities/schools?
5. Education is many times in a costly and closed education context. MOOCs are the reverse. Do you think that there is a paradox when Universities create and use MOOCs?
6. Do you think MOOCs changed education? Why?
7. Do you think MOOCs is useful in teaching business? To whom and why?
8. MOOCs changed the way you teach?
9. How your colleagues at the University look to MOOCs?
10. Do you think there are disadvantages of creating and using MOOCs in education?

Appendix 3 - Ethical submitted form

Staff and Postgraduate Research Application Form

College Ethics Committee for Non-Clinical Research Involving Human Subjects

Before completing this form, you should refer to the guidance notes available at:

<http://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/#d.en.191149>

This application form should be typed and submitted electronically via the Research Ethics System: <https://frontdoor.spa.gla.ac.uk/login/>

Applications should be submitted at least 6 weeks in advance of the intended start date for data collection to allow time for review and completion of any amendments that may be required.

Please note that applications that require PVG Clearance or permissions to access participants will not be considered until the applicant can provide evidence of this.

Applicant Details

Staff Research Project <input type="checkbox"/>
Postgraduate Research Project <input checked="" type="checkbox"/>
Project Title Business Models, Business Schools and MOOCs (Massive Online Open Courses)
Name of Applicant Agostinho Abrunhosa
School/Subject/Cluster/RKT Group Adam Smith Business School
Student ID/Staff Number 2111382A
Programme Title (PGR Applications only) Executive PhD

Ethical Risks

This section should be completed and signed by the appropriate parties, commenting on the research ethics risks involved in this project.

PGR Applications - Supervisors should complete and sign this section, approving submission for ethical review.

Staff Applications - Applicant should complete and sign this section, confirming submission for ethical review.

It should be clear from the comments provided that the potential risks have been considered and information provided on what they are, with evidence of what is to be implemented to mitigate these. You are advised to refer to the Risk

Guidance

at:

<http://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/staffandpostgraduateresearchstudents/>

The project involves interviews and collection of secondary data to investigate the impact in the business model of business schools of the introduction of MOOCs (Massive Online Open Courses).

All contacts with interviewees will be with consenting adults.

Ethical issues arise when the conduct of research involves the interests and rights of others. Although the ethical risks in this project do not present immediate or impending threats to the participants' safety, comfort, or privacy, participation is not risk free. The project adopts an ethical position which assumes that the researchers observe and protect the rights of would-be participants and systematically act to permit the participants to exercise those rights. To this end, we will endeavour to minimize participants inconvenience by interviewing at places they consider convenient, assure that they are properly informed, free to volunteer without inappropriate inducement, free to opt out at any time without redress, remain anonymous, and be fully protected in regard to safety to the limits of best practice.

Signed:

(Anna Morgan-Thomas)

Dated: 26 of Nov 2015

All Researcher(s) including research assistants and transcribers (where appropriate)

Title	First and Surname	Telephone	Email (usually UoG)
Mr.	Agostinho Abrunhosa	+xxxxxxxxxxxx	a.abrunhosa.1@research.gla.ac.uk

All Supervisors, Principal first (where applicable)

Title	First and Surname	Telephone	Email (usually UoG)
Dr.	Anna Morgan-Thomas		Anna.Morgan-Thomas@glasgow.ac.uk
Dr.	Ignacio Canales		Ignacio.Canales@glasgow.ac.uk

External Funding Details

(NB: If this project is externally funded, please provide the name of the sponsor or funding body.)

Self-funded

Project Details

<p>Start Date for Data Collection: 15/01/2016</p> <p>(NB: This refers to data collection for the research covered in this application. This should be at least 6 weeks from the date of application submission.)</p> <p>Proposed End Date of Research Project: 30/09/2018</p> <p>(NB: This date should be when you expect to have completed the full project and published the results e.g. date of award of PhD, journal article publication, end of funding period.)</p>

Justification for the Research

Why is this research significant to the wider community? What might be the impact on your practice or on the practice of others? Please outline the reasons which lead you to be satisfied that the possible benefits to researchers, participants and others to be gained from the project justify any risks or discomfort involved.

<p>This research covers three areas: Business Models (BM), Business Schools (BS) and MOOCs (Massive Online Open Courses) and the objective is to study the impact of MOOCs in the business model of business schools.</p>

The business model performance impacts on critical issues of organisations like competitive advantage, financial performance, survival, growth, success, etc. (Casadesus-Masanell & Ricart, 2010; Massa & Tucci, 2013). Using BMs the competitive structure can be better analysed and strategic innovation-decisions can be made (Hamel, 2001). Developments in ICT have a role in business model innovation (Pateli & Giaglis, 2005). BMs can be seen as a management tool relevant to success (Magretta, 2002) but they lack theoretical grounding in economics and business studies (Teece, 2010). Thus, it is relevant to deepen the research on the impact of MOOCs on the business model of BS.

Because MOOCs (Massive Open Online Courses) are a recent phenomenon and seem to have the potential to change and disrupt the higher education sector (LiyanaGunawardena *et al.*, 2013) and the executive education in particular (Terwiesch & Ulrich, 2014; Clark, 2014) it's important to study them. It is a new form of online learning (Margaryan, Bianco and Littlejohn, 2015), an opportunity to improve the quality of education (UNESCO, 2012), an innovation in distance and online learning (Siemens, 2013) and a widely-discussed new phenomenon in education (Martin, 2012). Some practitioners say that MOOCs will put many business school out off the market by 2020 (Clark, 2014) and others say they look more as an opportunity (Christensen *et al.*, 2014).

The connections between these three areas will allow for the future development of the business model field in subjects like business model innovation, change, evolution and design (Wirtz *et al.*, 2015). The methodology is follows a qualitative approach using multiple case studies.

Research Methodology and Data Collection

Method of data collection (Tick as many as apply)

<p>Face to face or telephone interview</p> <p>(Please provide a copy of interview themes. This does not need to be an exact list of questions but does need to provide sufficient detail to enable reviewers to form a clear view of the project and its ethical implications.)</p>	<input checked="" type="checkbox"/>
<p>Focus group</p> <p>(Please provide details: themes or questions. This does not need to be an exact list of questions but does need to provide sufficient detail to enable reviewers to form a clear view of the project and its ethical implications.)</p>	<input type="checkbox"/>

Audio or video-recording interviewees, focus groups or events (Please ensure that permission is evidenced on the consent form. Details should be provided, either in theme/question information or separately.)	<input checked="" type="checkbox"/>
Questionnaire (Please provide a copy of at least indicative questions, final questions must be submitted as an amendment if not provided in initial application)	<input type="checkbox"/>
Online questionnaire (Please provide the web address/ or electronic copy if not yet available online)	<input type="checkbox"/>
Participant observation (Please provide an observation proforma)	<input type="checkbox"/>
Other methodology (please provide details - maximum 50 words)	<input type="checkbox"/>

Research Methods

Please explain the reason for the particular chosen method(s), the estimated time commitment required of participants and how the data will be analysed. Ensure that you include reference to methods of providing confidentiality as you indicate below in section 8.a

The research design of this study is a multiple case study (Yin, 2009). My research question is related to how the business model of business school can be described through the business model concept and how the business model concept can vary with the presence of MOOCs, so the explanatory approach would be a justified choice. The unit of analysis are business schools.

The cases in this research were selected to represent several stages of the introduction of MOOCs in the business model of business school in different contexts. The data will be collected at the most 8 different case studies. Data will be gathered by the interview method with members of those business schools and by documentation.

Usually, the interview method is applied in a case study as a primary data source, since interviews are a highly efficient way to gather rich, empirical data.

Interview is a time-consuming way of generating data. However, it is flexible by nature and suitable for studying complex research phenomena and gaining an insight to individual views of a certain issue. Also, as the concepts discussed in this study are relatively new, interviewing is an excellent research method because it enables

empirical data to be gathered even though the exact amount and type of data is not known in advance.

Documentary information will be very relevant to every case study topic. This type of information can take many forms and should be the object of explicit data collection plans.

The data will be destroyed at the end of the research process after publication acceptance.

Confidentiality & Data Handling

Will the Research Involve:

*You should select all options that apply to your (different) research methods (insert the name of the method in shaded box at top of each column, e.g. interview / questionnaire) and make clear in section 7b above how these will be applied.

Degree of anonymity	(insert method) Interviews	(insert method)	(insert method)
De-identified samples or data (i.e. a reversible process whereby identifiers are replaced by a code, to which the researcher retains the key, in a secure location?)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anonymised samples or data (i.e. an irreversible process whereby identifiers are removed from data and replaced by a code, with no record retained of how the code relates to the identifiers. It is then impossible to identify the individual to whom the sample of information relates)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Complete anonymity of participants (i.e. researchers will not meet, or know the identity of participants, as participants are part of a random sample and are required to return responses with no form of personal identification)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of Names			
Subject being referred to by pseudonym in any publication arising from the research?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participants consent to being named?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any other methods of protecting the privacy of participants? (e.g. use of direct quotes with specific, written permission only; use of real name with specific, written permission only): provide details here:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participants being made aware that confidentiality may be impossible to guarantee; for example in the event of disclosure of harm or danger to participants or others; or due to size of sample, particular locations etc.?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participants being made aware that data may be shared/archived or re-used in accordance with Data Sharing Guidance provided on Participant Information Sheet?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Which of the following methods of assuring confidentiality of data will be implemented

(NB: The more ethically sensitive the data, the more secure will the conditions of storage be expected to be.)

<p>Location of Storage</p> <p>Storage at University of Glasgow <input checked="" type="checkbox"/></p> <p>Stored at another site <input type="checkbox"/> (Please provide details here, including address) The Data will be also stored in AESE Business School here I work in an electronic storage device with a password protection. AESE Business School address: Calçada Palma de Baixo, 12, 1600-177 Lisbon, Portugal. Paper records will be locked up in a closet.</p>	
<p>Paper</p> <p>Data to be kept secure in locked room/facility/cabinet <input type="checkbox"/></p> <p>Data and identifiers to be kept secure in locked room/facility/cabinet <input type="checkbox"/></p>	
<p>Electronic</p> <p>Access to computer files to be available by password only <input checked="" type="checkbox"/></p>	
<p>Other</p> <p>Any other method of securing confidentiality of data in storage: <input type="checkbox"/> (Please provide details here)</p>	

Access to Data

Access by named researchers and, where applicable, supervisors, examiners, research assistants, transcribers

Access by people other than named researchers, supervisors, examiners, research assistants, transcribers

Please provide details of others who will have access; and if relevant, of data management and sharing policy or protocol

Data will only be accessed by the researchers named above

Retention and Disposal of Personal Data *

Please explain and as appropriate justify your proposals for retention and disposal of any personal data to be collected.

No personal data will be collected. The participants will be referred by their pseudonym. Data will be destroyed after the analyses are concluded (31/08/2018).

* “(personal data means data which relate to a living individual who can be identified -

From those data, or

From those data and other information which is in the possession of, or is likely to come into the possession of, the data controller, and includes any expression of opinion about the individual and any indication of the intentions of the data controller or any other person in respect of the individual.” Data Protection Act 1998 c.29 Part 1 Section 1

Further Information on the Data Protection Act (1998) is available on the webpages of the Data Protection and Freedom of Information Office:

<http://www.gla.ac.uk/services/dpfooffice/>

e. Retention and Disposal of Research Data

Please explain and as appropriate justify your proposals for retention and disposal of research data to be collected.

Data will be destroyed after the analyses are concluded (31/08/2018).

For Postgraduate and Staff research University of Glasgow Research Guidelines expect data to be retained for 10 years after completion of the project.) Please see University Code of Good Practice in Research for guidance, <http://www.gla.ac.uk/services/postgraduateresearch/pgrcodeofpractice/>

Dissemination of Results

Results will be made available to participants as:

(NB: Intended method of dissemination ought normally to take account of the age, capacities and situation of participants.)

Written summary of results to all if requested	<input checked="" type="checkbox"/>
Copy of final manuscript presented if requested (e.g. thesis, article)	<input checked="" type="checkbox"/>
Verbal presentation to all (e.g. information session, debriefing)	<input type="checkbox"/>
Presentation to representative participants (e.g. CEO, School Principal)	<input type="checkbox"/>
Other or None of the Above	<input type="checkbox"/>

(please provide details here)	
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b. Results will be made available to peers and/or colleagues as:

Dissertation	<input type="checkbox"/>
Thesis (e.g. PhD)	<input checked="" type="checkbox"/>
Submission	<input type="checkbox"/>
Journal Articles	<input checked="" type="checkbox"/>
Book	<input type="checkbox"/>
Conference Papers	<input checked="" type="checkbox"/>
Written summary of results to all if requested	<input checked="" type="checkbox"/>
Other or None of the Above (please provide details here)	<input type="checkbox"/>

Participants

Explain how you intend to recruit participants. Provide as much detail as you can, including what age/type

of group will be used for each research activity involved (e.g. Interviews)

<p>I'm planning to contact them directly based on business relationships or through people that can introduce me. I work and teach in a Portuguese business school that is part of a network of business schools where the contacts and meetings are frequent. This will be the primary sources to recruit participants but if needed recruitment of participant companies could be done directly via a formal email requesting participation.</p> <p>I will endeavour to minimize participants inconvenience by interviewing at places they consider convenient, assure that they are properly informed, free to volunteer without inappropriate inducement, free to opt out at any time without redress, remain anonymous, and be fully protected in regard to safety to the limits of best practice.</p>

Target Participant Group

Students or Staff of the University	<input type="checkbox"/>
Adults (over 18 years old and competent to give consent)	<input checked="" type="checkbox"/>
Adults (over 18 years old who may not be competent to give consent)	<input type="checkbox"/>
Young people ages 16-17 years old	<input type="checkbox"/>
Children under 16 years old	<input type="checkbox"/>

If you require information on the age of legal capacity please refer to the Age of Legal Capacity (Scotland) Act 1991 available at: <http://www.legislation.gov.uk/ukpga/1991/50/contents>

Incentives

If payment or any other incentive (such as a gift or free services) will be made to any participants please specify the source and the amount of payment to be made and/or the source, nature and where applicable the approximate monetary value of the gift or free service to be used. Please explain the justification for offering payment or other incentive.

No incentive will be offered

Number of Participants (if relevant give details of different age groups/activities involved)

I aim at interviewing in the max 8 business schools including at least 3 individual informants per business school.

Dependent Relationship

Are any of the participants in a dependent relationship with any of the investigators, particularly those involved in recruiting for or conducting the project?

(For example, a school pupil is in a dependent relationship with their teacher. Other examples of a dependent relationship include student/lecturer; patient/doctor; employee/employer)

Yes

No

If yes, please explain the relationship and the steps to be taken by the investigators to ensure that the subject's participation is purely voluntary and not influenced by the relationship in any way.

f. Location of Research

University of Glasgow	<input checked="" type="checkbox"/>
Outside Location (Provide details here of outside locations, including as much information as possible.) From my office in Portugal. Alternatively I will travel either to western European and north American business schools. My office address: AESE Business School, Calçada Palma de baixo, 12 - 1600-177 Lisbon	<input checked="" type="checkbox"/>

Permission to Access Participants

Will subjects be accessed through another party?

(E.g. Company HR/CEO; doctor; hospital, Local Authority; School Head Teacher, other organisation or Glasgow University class lists)

Yes

No

If Yes, please describe the arrangements you intend to make to gain access to this information including, where appropriate, any other ethics committee that will be applied to.

Business School which will sign a form agreeing that the interview will take place with the named employee.

Permissions/Access

Permission is normally required to gain access to research participants within an organisation (e.g. Private Company; school; Local Authority; Voluntary Organisation; Overseas institution)

Is this type of permission applicable to this application?

Yes

No

If Yes: Is evidence of this permission provided with this application?

Yes

No

If No: Please explain any reason why you do not require permission to gain access to research participants.

Does this application involve contacting University of Glasgow students directly (either via email or within classes) for the purpose of your research?

Yes

No

If yes, separate permission to survey student's needs to be obtained prior to any such survey being undertaken. Normally this permission should be sought from the appropriate authority after ethical approval has been granted.

See

<http://www.gla.ac.uk/colleges/socialsciences/students/ethics/informationforapplicants/#d.en.191190> for details

(NB: Once obtained, a copy of this permission must be forwarded to the Ethics Administrator.)

Please list the participants that you intend to contact (e.g. 30 students from X course)

Is this application being submitted to another Ethics Committee, or has it been previously submitted to another Ethics Committee?

Yes

No

(If yes, please provide name and location of the ethics committee and the result of the application.)

Informed Consent

Have you attached your Participant Information Sheet (Plain Language Statement) for participants?

Yes

No

If no, please explain:

(You must consult the guidance at the Forms and Guidance Notes section of the College ethics website: <http://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/#d.en.191149> for information that you are required to provide in this.)

The Participant Information Sheet is written information in plain language that you will provide to participants to explain the project and invite their participation.

b. Please note that a copy of this information should be offered to the participant to keep unless there are specific reasons for not doing so. These must be clearly explained below.

--

c. Are any participants likely to require special consideration in the preparation of the Participant Information Sheet/Plain Language Statement to ensure informed consent?

(Eg. the use of child friendly language, English as second language)

Yes

No

If yes, please provide details here:

--

d. How will informed consent by individual participants or guardians be evidenced?

(NB: In normal circumstances, it will be expected that written evidence of informed consent will be obtained and retained, and that a formal consent form will be used: a copy of which should be provided.)

Signed Consent Form	<input checked="" type="checkbox"/>
Recorded Verbal Consent	<input type="checkbox"/>
Implied by Return of Survey	<input type="checkbox"/>
Other (please provide details here)	<input type="checkbox"/>

Justification if written evidence of informed consent is not to be obtained and retained:

--

Monitoring

Describe how the project will be monitored to ensure that the research is being carried out as approved (e.g. give details of regular meetings/email contact).

A virtual meeting (SKYPE) takes place between the researcher and supervisors every month to guarantee smooth progress of the project.

14 Health and Safety

What are the potential issues of personal safety for you, other researchers or participants involved in the project and how will you manage them? (Other than lone field work - refer to Section 15 for this)

There are no health and safety issues in this project

Risk

Does the activity involve lone field work, lone working or travel to unfamiliar places?

(E.g. Carrying out interviews alone and off-campus) (You should refer to the Risk Guidance at:

<http://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/#d.en.191149>)

NB: This does not apply to working within an institution such as a school.

Yes

No

Please give details of arrangements to minimise risks pertaining to this.

I will be carrying a charged mobile phone, letting my co-workers and family know where you will be at any given time and sharing my schedules with work and family.

b. How will you ensure that you minimise any possible distress caused to participants by the research process?

The participants will agree to be interviewed in their own chosen time and place and in their own institution (Business school) either in person or via Skype. I will endeavour to minimize participants inconvenience assuring that they are properly informed, free to volunteer without inappropriate inducement, free to opt out at any time without redress, remain anonymous, and be fully protected in regard to safety to the limits of best practice.

c. What procedures are in place for the appropriate referral of a study participant who discloses an emotional, psychological, health, education or other issue during the course of the research or is identified by the researcher to have such a need?

It is unlikely that any participant should disclose any of these matters during interviews because they will be talking about the organization they belong to. Should an event like this occur confidentiality will be guaranteed. In the very remote case of doubt about wrongdoing or potential harm I could ask for help to a local lawyer without disclose people or organization details.

d. Does this research involve any sensitive topics or vulnerable groups? You should refer to the Risk Guidance at:

<http://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/staffandpostgraduateresearchstudents/>

Yes

No

Please give details of arrangements to minimise risks pertaining to this

No, only consenting adults who freely agree to take part will be interviewed or observed.

16 Insurance

Does this research come under the exclusions to the University insurance cover for research?

Yes

No

If yes, please explain and detail how you intend to cover the insurance needs for this research

From my actual work (AESE Business School) I have travel and health insurance covered, while in Portugal and then abroad. If I need I could use the University's travel insurance.

The University insurance cover is restricted in certain, specific circumstances, e.g. the use of hazardous materials, work overseas, research into pregnancy and conception and numbers of participants in excess of 5000. Please refer to the Insurance and Indemnity advice on the website given below. Advice or authorisation given must be included with this application.

Information may be available at this link:

<http://www.gla.ac.uk/services/finance/staffsections/insuranceandrisk/>

17 Protection of Vulnerable Groups and Disclosure

Does this project require Protection of Vulnerable Groups (PVG) clearance?

Yes

No

If Yes, evidence that this has been obtained MUST be provided with this application.

If PVG registration is held, please provide details here:

The Protection of Vulnerable Groups (Scotland) Act 2007 came into effect on 28 February 2011. This replaced the previous Disclosure Scotland checking system for individuals who work with children and/or protected adults. The University is a Registered Body under this legislation.

Please consult the University Protection of Vulnerable Groups Scheme webpages for guidance: <http://www.gla.ac.uk/services/humanresources/mgrs-admin/mgr-guidance/pygscheme/>

Further guidance is available from: <http://www.disclosurescotland.co.uk/> (Disclosure Scotland)

18 UK and Scottish Government Legislation

Have you made yourself familiar with the requirements of the:

Data Protection Act (1998) <https://ico.org.uk/for-organisations/guide-to-data-protection/>

Freedom of Information (Scotland) Act 2002
<http://www.itspubliknowledge.info/Law/FOISA.aspx>

Yes

No

If no, please explain here:

See Application Guidance Notes available from:
<http://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/staffandpostgraduaterese archstudents/> for further information.

In addition visit: <http://www.gla.ac.uk/services/dpfoioffice/> for University guidance on Data Protection

The Freedom of Information Act 2002 (FOI) provides a general right of access to most of the recorded information that is held by the University. The Act sets out a number of exemptions/exceptions to this right of access.

NB: Declaration over page must be signed/completed.

19 Declarations by Researcher(s) and Supervisor(s)

The application will not be processed if this section is blank or incomplete.

The information contained herein is, to the best of my knowledge and belief, accurate.

I have read the University's current human ethics guidelines, and accept responsibility for the conduct of the

procedures set out in the attached application in accordance with the guidelines, the University's Code of Conduct for Research and any other condition laid down by the University of Glasgow Ethics Committee and the College of Social Sciences Ethics Committee.

NB: Full details of the University's ethics guidelines are available at: <http://www.gla.ac.uk/research/aims/ourpolicies/committeestructure/>

I and my co-researcher(s) or supporting staff have the appropriate qualifications, experience and facilities to conduct the research set out in the attached application and to deal effectively with any emergencies and contingencies related to the research that may arise.

I understand that no research work involving human participants or data collection can commence until I have been granted full ethical approval by the College of Social Sciences Ethics Committee.

This section MUST be completed to confirm acceptance of Code of Conduct. If there is no scanned signature then please type the names (or use GUID) and date into the boxes below.

	Signature	Date
Researcher (All applicants)	Agostinho Abrunhosa	12-11-2015
Principal Supervisor (Where applicable)	Anna Morgan-Thomas	12-11-2015

Applications should be submitted electronically as follows:

Please upload the completed form, along with any other required documents by logging in to the Research Ethics System at: <https://frontdoor.spa.gla.ac.uk/login/>

NB: PGR students are required to upload their application which is then forwarded to their named supervisor for approval and submission to the Ethics Committee.

Appendix 4 - Ethical approval

Application Approved Ethics Committee for Non-Clinical Research Involving Human Subjects

Staff Research Ethics Application Postgraduate Student Research
Ethics Application

Application Details

Application Number: 400150067

Applicant's Name: Agostinho Abrunhosa

Project Title: Business Models, Business Schools and MOOCs (Massive Online Open Courses)

Application Status: **Approved**
Start Date of Approval: 29/03/2016
End Date of Approval of Research Project: 30/09/2018

Please retain this notification for future reference. If you have any enquiries, please email socsci-ethics@glasgow.ac.uk.

Appendix 5 - Introductory email to potential interviewees

Dear Prof. ...,

My name is Agostinho Abrunhosa, I'm carrying out my PhD research in the Adam Smith Business School of the University of Glasgow in Scotland.

Besides, I am a full-time member of staff at AESE Business School, the first Business School in Portugal, which is part of the IESE Business School worldwide network.

I am researching the Impact of Massive Open Online Courses (MOOCs) on the Business Model of Business Schools. I understand that your University is the perfect candidate because has pioneered the field of MOOCs. I can guarantee both confidentiality and anonymity. If of interest to you, I will share the anonymized research results and any academic articles that emerge from it.

If you agree to be a part of this study I would like to interview you or please ask you to nominate some representatives as key individuals that I could contact to request an interview?

Please do not hesitate to contact either me or any of my two supervisors from the Adam Smith Business School, University of Glasgow for any further details.

Dr Ignacio Canales (Igancio.Canales@glasgow.ac.uk)

Dr Anna Morgan Thomas (Anna.Morgan-Thomas@glasgow.ac.uk)

I look forward to hearing from you.

Sincerely yours,

Agostinho Abrunhosa

a.abrunhosa.1@research.gla.ac.uk

Adam Smith Business School

University of Glasgow

Appendix 6 - Plain Language Statement



Plain Language Statement

1. Study title and Researcher Details

Business Models, Business Schools and MOOCs (Massive Online Open Courses)

Agostinho Abrunhosa

2. Invitation paragraph

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

3. What is the purpose of the study?

The objective of the research is to understand how business models can be applied as a conceptual framework to describe the impact of MOOCs in the business model of a business school.

4. Why have I been chosen?

You are being invited to participate in this research because you are knowledgeable about organization and sector where you work.

5. Do I have to take part?

Your participation in this research is completely voluntary. You may refuse to participate or may withdraw at any time from the study for any reason. If you would like to withdraw from the project after the interview, please get in touch with Agostinho Abrunhosa by email and any records about your interview will be destroyed.

6. What will happen to me if I take part?

You will be asked a series of open-ended questions about your work in the business school and your knowledge of technology in teaching. The interview will take about an hour at a location of your choice. With your permission, the interview will be audio taped so that it can be transcribed, allowing the researcher to read the transcript. You have the option of consenting to audio taping or declining to consent. Copies of transcripts will be returned to participants for verification.

7. Will my taking part in this study be kept confidential?

The only people who will have access to the audiotapes and transcripts produced in this research is the researcher and supervisors. Your participation is confidential. Confidentiality will be respected subject to legal constraints and professional guidelines.

8. What will happen to the results of the research study?

The researcher intends to publish and make public presentations about the research results. In these reports and presentations, participants will be referred to by pseudonym. None of the participants in the research will be identified by name without their consent. There will be no commercial use of the data.

9. Who is organising and funding the research? (If relevant)

This research is part of a PhD research conducted by Agostinho Abrunhosa at the Adam Smith Business School of the University of Glasgow.

10. Who has reviewed the study?

The study has been reviewed by College of Social Sciences board of Ethics.

11. Contact for Further Information

For further information regarding the study, you can contact Agostinho Abrunhosa: +xxxxxxxxxx or a.abrunhosa.1@research.gla.ac.uk . In case of ethical complaints, you can contact the College of Social Sciences Ethics Officer Dr Muir Houston (email: Muir.Houston@glasgow.ac.uk).

Appendix 7 - Consent Form



University
of Glasgow

College of Social
Sciences

Consent Form

Title of Project: Business Models, Business Schools and MOOCs (Massive Online Open Courses)

Name of Researcher: Agostinho Abrunhosa

1. I confirm that I have read and understand the Plain Language Statement for the above study and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.
3. I agree / do not agree (delete as applicable) that the interview will be audio recorded. If you want, I can send copies of the transcripts for verification.
4. I agree / do not agree (delete as applicable) to take part in the above study.

Name of Participant	Date	Signature
Researcher	Date	Signature

List of References

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