The Embeddedness of e-Entrepreneurship: 
Institutional Constraints and Strategic Choice  
in Latin American Digital Start-ups

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Abstract

The so-called digital economy has been growing exponentially in the emerging economies and it is expected to continue growing around the globe. For this reason, many governments are funding support programmes (e.g. Start-up America in the USA, the UK’s Tech City, and Brazil Startup) to both encourage and facilitate the creation of Digital Start-ups (DSs), defined here as recently-created enterprises that produce solely digital products or services. Whilst in some regions there is some evidence that these efforts are starting to pay off, the majority of DSs that have grown to become global digital enterprises remain concentrated in the United States and Europe. In the case of Latin America, the digital economy already accounts for between 2-3.2% of GDP. Nonetheless, most e-commerce transactions occur through platforms based in the United States, with a scarcity of examples of Latin American DSs (LADSs) that have grown to become large digital firms.

Despite this, the literature has paid little attention to the relationship that exists between the institutional environment and LADS’s agency. The few extant studies that do exist have focused on either institutional or infrastructure constraints and public policies, or business models and resource analysis. To address this knowledge gap, this research studied LADSs in the four largest Latin American countries (Brazil, Mexico, Argentina, and Colombia), representing three-quarters of the region’s GDP, in order to answer the following questions: How do environmental pressures influence the development of LADSs? How do LADSs respond to these pressures and seize potential business opportunities?

The research followed a critical realist philosophical foundation and was operationalised through a qualitative exploratory field study of forty organisations, including DSs, accelerators, investors, government agencies, and not-for-profits. Geel’s (2014) Triple Embeddedness Framework (TEF) was chosen as the theoretical framework to guide this research and integrates constructs from the Lean Start-up method (LSM), which was widely adopted by the LADSs to develop their business models.

This study provides empirical support for the constructs outlined in the TEF, identifies crucial shortcomings in LSM, and uncovers new constructs that are necessary to accommodate the DSs’ digital properties, which result in tensions between their embeddedness in the institutional environment, their hybrid embeddedness in a product-sector industry and a digital industry, and their embeddedness in a multi-level organisational field that creates a core-periphery relationship between Latin America and the United States.

Therefore, a new framework, entitled DIME, is proposed to assist e-entrepreneurs when developing digital business models to achieve the right firm-environment-fit in Latin America. The findings of this study will also contribute to future research, and to guide policy makers interested in fostering the development of the digital economy in emerging economies.
Declarations and Copyright Statement

This thesis builds upon ideas contained in previous papers written by the author and his research supervisors on the topic of e-entrepreneurship in emerging economies, including the following conferences and publications:


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Dedication

A.M.D.G.

To my wife Ewa, for her unconditional and loving support during years of late nights and short weekends. To my daughters, Ceci and Ela, who have inspired me and walked along this road so patiently. To my mother, who has been an endless source of encouragement and tenderness; and to my father, who has been an example of fortitude, and integrity.
Chapter 1

Introduction

1.1 Research Background and Key Definitions

The number of economic transactions executed electronically is expected to continue growing around the globe, with emerging economies\(^1\) enjoying the fastest growth rate (Chakravorti, Tunnard, & Chaturvedi, 2015). This boom in digital transactions has facilitated a panoply of new business opportunities, has transformed the traditional processes of wealth creation, and has allowed consumers to enjoy a range of services at a lower cost, much faster, and often with greater reliability (Case, 2016; Tapscott, 1996). However, the digitalisation of different sectors of the economy has already displaced a large number jobs as a consequence of automation (Brynjolfsson & McAfee, 2014; Frey & Osborne, 2017), in a phenomenon that Arthur (2011) described as the rise of a ‘Second Economy’ that is purely digital and works in the background the physical economy. Emerging economies face particular challenges when attempting to compete in this new economy, given limitations in their information and communication technology (ICT) infrastructure, low economic mobility and the limited access to higher education prevailing in these countries (IMF, 2016;\(^1\)

\(^1\) The terms ‘emerging economies’ and ‘emerging countries’ are used interchangeably and refer to the list of countries named as such by the International Monetary Fund (IMF, 2016).
The creation, growth and sustainability of competitive firms that can participate in the digital economy offer a potential vehicle for emerging economies to compete and develop (Boateng, Heeks, Molla, & Hinson, 2008).

In order to correctly position this research, it is useful to introduce some key definitions. The terms ‘digital economy’ (Tapscott, 1996) and ‘net economy’ (Castells, 2004) refer to the economic environment created when firms and consumers carry out business transactions using the Internet. More recently, a study by Accenture defined the ‘digital economy’ as “the share of total economic output derived from a number of broad ‘digital’ inputs. These digital inputs include digital skills, digital equipment (hardware, software and communications equipment) and the intermediate digital goods and services used in production” (Knickrehm, Berthon, & Daugherty, 2016; p. 2). Whilst the emergence of the digital economy does not replace traditional economic models, it does require that they adjust certain aspects in order to accommodate the new business logics inherent to the properties of the Internet (Castells, 2011; Huang, Henfridsson, Liu, & Newell, 2017). For example, some authors state that when conducting business electronically, distances become irrelevant, information dissemination becomes instantaneous, borders are blurred or even eliminated, costs of entry are lowered, and the rules of business engagement change dramatically (Brynjolfsson & Kahin, 2000; Brynjolfsson & McAfee, 2014). The organisations successfully doing business in this new economic environment are distinguished by their ability to engage in business transactions executed solely by electronic or digital means, commonly known as ‘e-business’ (Wall, Jagdev, & Browne, 2007). Although the
term ‘e-entrepreneurship’ has been adopted by several authors, Matlay (2004) used it for the first time to reference a field worthy of academic study. Building on this work Kollmann (2006; p. 322), defined e-entrepreneurship as “the act of establishing new companies specifically in the Net Economy”. More recently, Ries (2011) defined a ‘start-up’ in terms of its mission to innovate, describing the uncertain environment in which it operates as “a human institution designed to create new products and services under conditions of extreme uncertainty” (Ries, 2011; p. 8); while Blank and Dorf (2012) incorporated the properties of temporality and scalability inherent to the digital economy by conceptualising a start-up as a “temporary organization in search of a scalable, repeatable, profitable business model” (Blank & Dorf, 2012; p. 161). This research builds upon these definitions to conceptualise a ‘digital start-up’ (DS) as a temporary organisation in search of a scalable, repeatable, and profitable business model based on digital products or services. DSs are firms created in the digital economy that are in a process of transition, from having an idea to sell a digital product or service to becoming a fully self-sustainable company.

The research background illustrates the contrast between the exponential growth in the number of e-commerce transactions (Dean et al., 2012), and the very modest growth experienced in the total global economy, with annual averages ranging between 2% and 3% (World Bank, 2017). For example, Knickrehm et al. (2016) estimated that 22.5% of the world economy is already associated with a digital input, including “digital skills, digital equipment (hardware, software and communications equipment) and the intermediate digital goods and services used in production” (Knickrehm et al., 2016; p. 2). The digital
economy in the USA has reached a value of some $6 trillion US Dollars, and a country such as Brazil can expect to see growth in gross domestic product of 6.6% by 2020 just from the use of new digital technologies. For this reason, private investors and governmental agencies across the globe are supporting e-entrepreneurs through the provision of grants, digital incubators (Stam & Buschmann, 2011), and programmes such as Start-up America, Tech City in the UK, Start-up Chile, and Brazil Startup; each with the objective of promoting the development of DSs that can capture market share in the global economy. Whilst there is evidence that such efforts are starting to pay off in some regions, a recent attempt by the Global Entrepreneurship Network and Startup Genome to map global startup activity found that there is a very high concentration of DSs in the United States and Europe (Startup Genome, 2017), which is consistent with earlier findings provided by Herrmann, Marmer, Dogrultan, and Holtschke (2012). However, this research should be considered in light of the assertion that the fastest growth in consumers entering the digital economy is expected to come from emerging economies (Nottebohm, Manyika, & Chui, 2012; OECD, 2015). Therefore, unless DSs from emerging economies can thrive in the digital economy, they may experience a potential migration of wealth from the global south to the global north (Brynjolfsson & McAfee, 2014), as the dominance of US platforms such as Google, Facebook, and Instagram illustrates (Katz, 2015).

In the case of Latin America, e-commerce already accounts for 2.6% of all retail sales, with a compounded growth rate of 19% a year (ECLAC, 2016). For example, the annual growth of broadband connections in Mexico between 2010 and 2014 was over 28% (OECD, 2015). Nonetheless, most of the e-commerce
transactions occur through platforms based in the United States, and there remains a relative scarcity of examples of successful Latin American DSs (LADSs)\(^2\) that have grown to become large digital firms (Katz, 2015). Several countries in Latin America have implemented policies and launched programmes to support the development of LADSs (Kantis, Federico, & Menéndez, 2012); however, evidence suggests that whilst there has been some progress, much remains to be done by practitioners, policymakers and academics in order to improve LADSs’ ecosystem and capture the economic benefits of the continuing process of global digitalisation (Caride, 2016; Katz, 2015; OECD, 2015).

1.2 Research Questions

The literature review outlined in detail in Chapter 2 highlights that only a few studies have been undertaken to investigate how DSs are developing in emerging economies, and that the limited extant studies on DSs in emerging economies are based on frameworks that focus on either the role of the institutional environment (i.e. business ecosystems and institutional theory) in which firms operate or firm’s agency (i.e. strategic choice, Lean Start-up). Quinones et al. (2015) posited that studies on DSs concerned with firm’s agency are exclusively focused on the inner workings of DSs: how they build their business models, and how they take decisions to manage their resources and

\(^2\) A company valuation over $100M is the commonly accepted threshold used to define a successful startup (Callahan, Kutcher, & Manyika, 2014)
capabilities. In contrast, other studies that see the institutional environment as the actors and institutions of the societies in which DSs are embedded, are concerned with how these constrain or enable DSs’ emergence and growth (Quinones, Heeks, & Nicholson, 2017). The latter are largely deterministic about the environment’s role in the success of DSs; either relegating or ignoring the role of entrepreneurial agency (Arruda, Nogueira, & Costa, 2013; Cervantes & Nardi, 2012; Kantis et al., 2012). As discussed further in Chapter 2, studying e-entrepreneurship through frameworks that fail to reconcile environment and agency perspectives may only offer partial explanations as to how the environment imposes institutional pressures on DSs, or how DSs build their business models to satisfy a market need, but neglect to consider the important connection between these two dimensions.

The study undertaken by Boateng et al. (2008) considers how e-entrepreneurs in emerging economies can develop digital strategies, taking into consideration “the complex relationships among technology, environments and organizational performance” (Boateng et al., 2008; p. 586). Furthermore, after undertaking an extensive research on the Latin American digital economy, Katz (2015) concluded that a new integrated framework, containing a complete vision of the Latin American DSs’ ecosystem, is required to successfully guide new policies in support of e-entrepreneurship; warning that the lack of such a comprehensive perspective would put the region at risk of continuing “to be a mere consumer of content, applications and services developed beyond its frontiers, with a limited capacity of adding value to production processes” (Katz, 2015; p. 57).
The research problem that this study intends to address is the gap between the critical need that Latin America in particular, and emerging economies in general, have to foster DSs that can succeed in the digital economy, and the currently limited understanding that exists of the complex relationships between these DSs and their environment. In order to devise a comprehensive framework to study e-entrepreneurship in emerging countries, the following research questions have been developed:

1. How does the institutional environment influence the development of LADSs?
2. How do LADSs respond to the institutional environment in support of their business models?

The aim of the first research question is to discover the structures of the institutional environment in Latin America in which LADSs are embedded, and the mechanisms through which the environment influences the LADSs. Existing studies have considered digital ecosystems in emerging economies; however, such studies have been only focused on identifying constraining factors, and in consequence have missed how DSs respond to these constraints or how the institutional environment can be a source of business opportunities for DSs (Quinones et al., 2017). For example, while Kantis et al. (2012) undertook an extensive study examining the public policies that can support the digital ecosystem in Latin America, they did not consider how institutions in Latin American can affect the business models of the LADSs.
The aim of the second research question is to determine the role of agency in DSs in overcoming institutional constraints, and in finding business opportunities emerging from the existing institutional environment. Studies that have explored the role of agency in DSs in emerging economies appear to be very limited, and have only focused on the internal processes of the firm, rather on the firm’s interaction with its environment (Quinones et al., 2015). For example, while Chassagne (2015) looked at how Brazilian DSs developed their business models, he ignored the impact of the institutional environment on the DSs’ ability to implement them.

Integral to answering these two questions, this study aims to present a framework that takes into account both environment and agency theoretical perspectives when seeking to explain how LADSs can build business models that are a good fit with the institutional environment and thus enable them to grow.

1.3 Thesis Structure

Chapter 2 reviews the academic literature relevant to the research questions, discusses the strengths and weaknesses of different theoretical frameworks, and identifies the respective gaps in the extant studies.

Chapter 3 justifies the use of the Triple Embeddedness Framework (TEF) as the underlying theoretical framework used to guide the empirical research undertaken to answer the research questions and thus attempt to fill the gaps in the existing literature.
Chapter 4 presents the research methodology and explains the use of critical realism as the underlying philosophical foundation for the qualitative exploratory research, which uses deductive and inductive reasoning of data gathered from a field study drawing on semi-structured interviews and direct observations.

Chapters 5 and 6 present the empirical findings of this research. Chapter 5 considers the first research question and the TEF; while Chapter 6 responds to the second research question, integrating constructs gained from LSM and the TEF.

Chapter 7 summarises the key research findings, acknowledges limitations, and offers suggestions for how future research could continue to expand understanding about the social phenomenon of e-entrepreneurship in Latin America and other emerging economies.
2.1 Introduction

The aim of this chapter is to review the existing literature on e-entrepreneurship, in order to identify pertinent elements to be incorporated into a conceptual framework designed to address the research questions, whilst also highlighting critical gaps in current research. The chapter outlines why the study of e-entrepreneurship not only builds upon traditional frameworks, but also adopts a number of elements that are particular to DSs; before discussing the need for the theoretical framework to include perspectives both on the role of the institutional environment, to account for the impact that Latin American institutions have had in the emergence and development of DSs; and the role of agency, to demonstrate the differentiated business models in DSs. Subsequent sections explore how the existing literature focuses on either the role that the institutional environment or agency plays in organisational development, before discussing how each contribute to the study of e-entrepreneurship. Whilst these two perspectives appear to be based on different and sometimes conflicting propositions, the chapter concludes by presenting a method of reconciling such differences and introduces a unified theoretical framework containing the necessary elements needed to guide empirical research on e-entrepreneurship in Latin America.
2.2 The Study of e-Entrepreneurship

This section investigates the elements necessary for the study of e-entrepreneurship in emerging economies, outlining the differences between DSs and their more traditional counterparts, and concluding with a review of the existing literature on e-entrepreneurship.

2.2.1 Early literature

The early focus of academic research in this area considered how e-businesses could offer existing brick-and-mortar enterprises an alternative to the traditional way of doing business (Barr, 2001; Gopal, Ramesh, & Whinston, 2003; Tapscott, 1996; Zimmerman, 2000). It wasn’t until some time later that the literature acknowledged the existence of purely digital enterprises (Barnes, Hinton, & Mieczkowska, 2004; Taylor & Murphy, 2004; Wall et al., 2007). Perhaps confusingly, the terms ‘digital business’ and ‘e-business’ have been employed indiscriminately, applied in reference to both traditional businesses that have implemented an alternative e-business strategy (e.g. Nike online and Walmart online), and enterprises operating purely e-business operations (e.g. Google and Facebook). Authors have described the latter using a variety of terms, including digital enterprises (Barr, 2001), digital ventures (Hull et al., 2007; Kelestyn, Henfridsson, & Nandhakumar, 2017), web start-ups (Provatas, 2013), Internet ventures (Souitaris & Cohen, 2003), Internet start-ups (Hering, Olbrich, & Steinrucke, 2006), technology-based ventures (Pathak, Muralidharan, & Laplume, 2014), and e-businesses start-ups (Carrier, Raymond, & Eltaief, 2004). In an attempt to make sense of the multiple typologies applied to new digital firms, Hull et al. (2007) classified e-entrepreneurship according to its reliance on e-
business in support of its operations: describing them as mild, moderate, or extreme, as illustrated in Table 2.1. The discrete properties of e-entrepreneurship-based start-ups supports the application of a specific term to describe them, and in this way, DSs meet Hull et al.’s (2007) typology of business ventures following an extreme digital entrepreneurship model.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Category of digital entrepreneurship</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Mild</td>
</tr>
<tr>
<td>Marketing</td>
<td>Website as supplement</td>
</tr>
<tr>
<td>Sales</td>
<td>Product may be available for sale</td>
</tr>
<tr>
<td></td>
<td>digitally</td>
</tr>
<tr>
<td>Product (goods or</td>
<td>Product is non-digital</td>
</tr>
<tr>
<td>services)</td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td>Product is delivered by physical</td>
</tr>
<tr>
<td></td>
<td>means</td>
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<tr>
<td>Stakeholder management</td>
<td>Traditional interactions may include</td>
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<tr>
<td></td>
<td>e-mail</td>
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<td></td>
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<tr>
<td>Operations</td>
<td>Primarily physical location(s),</td>
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<td></td>
<td>traditional interactions,</td>
</tr>
<tr>
<td></td>
<td>may include some virtual</td>
</tr>
<tr>
<td></td>
<td>team interaction</td>
</tr>
</tbody>
</table>

Table 2.1 - Typology of digital entrepreneurship (Hull et al., 2007)

Whilst some have argued that starting a business on the Internet is not substantially different from starting a business in the offline world (Barnes,
Matthew, & Mieczkowska, 2004; Souitaris & Cohen, 2003), others have identified that DSs share a number of differentiating properties (Asghari & Gedeon, 2010; Barr, 2001; Kollmann, 2006, 2010). In 2003, Souitaris and Cohen (2003) undertook a statistical analysis of the performance of DSs, comparing it to other, non-Internet-based ventures operating in the same industries. They found that no significant statistical difference existed between the performances of either group, leading them to conclude that DSs could be studied in the same way as any other venture. However, it is possible that their findings may have been influenced by their choice of performance indicators, which were mainly based on traditional economic performance metrics, and which discarded some of the discrete economic properties of digital business models. For example, Wirtz, Schilke, and Ullrich (2010) suggest that some digital business models are based on gaining a fast adoption of services in the early stage, with little consideration of revenue or financial performance, in order to build lock-in mechanisms that may later be monetised through alternative sources of revenue. This assertion was later supported by Kelestyn et al. (2017), who highlighted the unique capabilities of DSs to scale to hundreds of thousands of users in a very short time. Nonetheless, Barnes, et al. (2004) found that DSs face similar challenges to their offline counterparts when dealing with suppliers, accessing adequate funding, gaining the backing of strategic advisers and attracting managerial resources. This research highlights that whether adopting a digital business model or a more traditional offline one, the driver of entrepreneurship is innovation (Soriano & Huarng, 2013); and therefore all entrepreneurs must find a way to overcome the inevitable environmental and economic obstacles that introducing a new product
to the market entails (Crespi & Zuñiga, 2012). As Barnes, Hinton, et al. (2004) suggest, any small firm, whether Internet-based or not, will struggle initially to gain access to the resources required to grow and succeed. Hence, based on the findings of the literature, it could be argued that the frameworks used to study traditional entrepreneurship, while limited, can and should also inform the study of e-entrepreneurship.

However, in 2006, Kollmann proposed an alternative model for the study of e-entrepreneurship, applying a holistic perspective. This model identifies features specific to DSs, including the need to understand the complex underlying technologies and processes intrinsic to the digital economy, the ability to leverage the economies of scale that the Internet provides, the ability to time and fund technology investments without immediate access to revenue streams, the ability to enter a variety of markets from the outset – both horizontally (across segments) and vertically (across borders), and the ability to establish trust through virtual interactions in order to facilitate business transactions. Furthermore, Asghari and Gedeon (2010) propose that DSs have some significant advantages over their offline counterparts, including reduced transaction and administration costs, increased agility, inherent internationalisation (as they are global from their inception), and enhanced customer participation in the business’ processes. Despite these advantages, they also suggested that DSs are more likely to experience problems when attempting to protect their intellectual property, creating a corporate culture, fostering employee loyalty, and managing inter-company communications. Some of these challenges were also recognised by Matlay and Westhead (2005), in their study of the complex dynamics that e-
entrepreneurs must manage when working in virtual teams. Avgerou and Li (2013) further identified that while offline start-ups operate in a local environment, DSs operate in a hybrid environment that merges both local and virtual aspects, which creates a different set of opportunities and challenges that e-entrepreneurs must manage. Table 2.2 summarises the specific properties of DSs identified in the literature.

<table>
<thead>
<tr>
<th>Specific properties of DSs</th>
<th>Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large scalability potential, leveraging the existing Internet infrastructure.</td>
<td>Kelestyn et al. (2017); Kollmann (2010)</td>
</tr>
<tr>
<td>Need to time and fund technology investments without immediate revenue streams.</td>
<td>Kollmann (2006)</td>
</tr>
<tr>
<td>Ability to enter a variety of markets horizontally (across segments) and vertically (across borders) from the outset.</td>
<td>Kollmann (2006)</td>
</tr>
<tr>
<td>Ability to establish trust through virtual interactions in order to facilitate business transactions.</td>
<td>Kollmann (2006)</td>
</tr>
<tr>
<td>Reduced transaction and administration costs.</td>
<td>Asghari &amp; Gedeon (2010)</td>
</tr>
<tr>
<td>Increased agility, not constrained by physical properties.</td>
<td>Asghari &amp; Gedeon (2010)</td>
</tr>
<tr>
<td>Inherent internationalisation.</td>
<td>Asghari &amp; Gedeon (2010)</td>
</tr>
<tr>
<td>Enhanced customer participation.</td>
<td>Asghari &amp; Gedeon (2010)</td>
</tr>
<tr>
<td>Harder to protect intellectual property.</td>
<td>Asghari &amp; Gedeon (2010)</td>
</tr>
<tr>
<td>Harder to create a corporate culture, foster employee loyalty and manage inter-company communication.</td>
<td>Asghari &amp; Gedeon (2010); Matlay &amp; Westhead (2005)</td>
</tr>
<tr>
<td>Operating in a hybrid local and virtual environment.</td>
<td>Avgerou &amp; Li (2013)</td>
</tr>
</tbody>
</table>

Table 2.2 – Differential properties of DSs

Hence, it is clear that whilst DSs have things in common with their more traditional counterparts, they also have a number of unique characteristics; and
therefore, traditional entrepreneurship and organisational development frameworks must be expanded to account for these, allowing for the creation of a research framework suited to address the questions posed in this research.

2.2.2 Literature on e-entrepreneurship

As a relatively new academic discipline, e-entrepreneurship is still developing theoretical frameworks, with most models continuing to draw on the work of other disciplines. However, research by Afuah & Tucci (2000), Matlay & Westhead (2005), Gundry & Kickul (2006) and Kollmann (2006), offers a foundational body of literature on e-entrepreneurship, commonly referenced in more recent research. Table 2.3 summarises these key studies, compiled by Quinones et al. (2015), and categorises them by research perspective, focal area and economic context (i.e. mature or emerging economies). Table 2.3 reveals that the early literature on e-entrepreneurship has four principal areas of focus:

1. Agency: the actions that firms take to innovate and actively respond to the conditions imposed by the environment;
2. Environment: the role that the external elements (e.g. social and cultural institutions, economy, public policies) to a firm play in constraining or enabling its agency;
3. Resources: the material and human resources required to start a new DS;
4. Development process: the stages followed by DSs from their foundation to the point of having a scalable business model.

Of these four, agency and environment are the most noteworthy, since access to resources and the development process are typically seen as a function of entrepreneurial agency, or of the environment, or as a combination of both.
<table>
<thead>
<tr>
<th>Perspective</th>
<th>Research</th>
<th>Focus</th>
<th>Economic context³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sinkovics &amp; Bell (2005)</td>
<td>E, R</td>
<td>Mature</td>
</tr>
<tr>
<td></td>
<td>Hull et al. (2007)</td>
<td>A, R</td>
<td>Mature</td>
</tr>
<tr>
<td></td>
<td>Matlay &amp; Westhead (2005)</td>
<td>A, R</td>
<td>Mature</td>
</tr>
<tr>
<td></td>
<td>Batjargal (2005)</td>
<td>A, R</td>
<td>Emerging</td>
</tr>
<tr>
<td></td>
<td>Effaha (2013)</td>
<td>E, R</td>
<td>Emerging</td>
</tr>
<tr>
<td></td>
<td>Avgerou &amp; Li (2013)</td>
<td>E, R, D</td>
<td>Emerging</td>
</tr>
</tbody>
</table>

³ The terms ‘emerging economies’ and ‘mature economies’ refer to the list of countries named as such by the International Monetary Fund (IMF, 2016).
<table>
<thead>
<tr>
<th>Drivers of e-entrepreneurship</th>
<th>McQuaid (2002)</th>
<th>E</th>
<th>Mature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Isenberg (2010)</td>
<td>E</td>
<td>Mix</td>
</tr>
<tr>
<td></td>
<td>Kantis et al. (2012)</td>
<td>E, R, D</td>
<td>Emerging</td>
</tr>
<tr>
<td></td>
<td>Arruda et al. (2013)</td>
<td>E, R, D</td>
<td>Emerging</td>
</tr>
</tbody>
</table>

Abbreviations: A: Agency, E: Environment, R: Resources, D: Development process

Table 2.3 - Research perspectives on e-entrepreneurship, from Quinones et al. (2015)

Each of the studies cited in Table 2.3 includes a perspective on either agency or environment. Only Matlay (2004) acknowledged that both entrepreneurial agency and environmental factors affect e-entrepreneurship, suggesting that both elements should be considered in parallel in future research. Of those focused on agency, some considered it at an individual level, by examining how entrepreneurial skills, personality, personal networks, and entrepreneurs’ decisions affected the success and development of the start-ups (Batjargal, 2005; Gundry & Kickul, 2006; Lasch et al., 2007); while the remainder focused on the role of agency at an organisational level, by exploring the process of defining the business model, and the results of different strategies employed by the firms in question (Asghari & Gedeon, 2010; Hull et al., 2007; Kollmann,
Furthermore, while the studies focused on the environment adopted a variety of underlying frameworks, including economic ecology (Isenberg, 2010; Kantis et al., 2012; Neck et al., 2004); economic sociology (Cervantes & Nardi, 2012); and institutional theory (Avgerou & Li, 2013; Effaha, 2013), all aimed to identify the environmental elements that constrain or enable e-entrepreneurs. Later studies on e-entrepreneurship (not included in Table 2.3) have acknowledged that DSs’ interaction with the environment has implications in their development (Huang et al., 2017; Kelestyn et al., 2017; Kende, 2015; Pezderka, Sinkovics, & Jean, 2012); however, these studies have primarily been focused on the role of agency. Consequently, it is clear that there is a gap in the literature on e-entrepreneurship, with a paucity in research that considers both agency and environmental perspectives using a unified framework.

Furthermore, few of the studies summarised in Table 2.3 considered the different context emanating from emerging economies. It is interesting to note that, with the exception of Batjargal (2005) and Huang et al. (2017), most of the studies focusing on agency were undertaken in mature economies. The studies undertaken in emerging economies with focus on the environment are united in their opinion that the environment plays a significant role in the development of e-entrepreneurship. For example, Kantis et al. (2012) propose that favourable governmental policies are a necessary precondition to removing existing environmental barriers, and to enable the development of DSs in Latin America. The underlying frameworks adopted by these authors implied that the role of the individual e-entrepreneur in an emerging economy is limited to finding the right
niche of opportunity within a relatively unfavourable environment. However, as Batjargal (2005) revealed, e-entrepreneurs in emerging economies do more than simply identify an opportunity. Batjargal found that the social skills of Chinese e-entrepreneurs helped them to establish the strong social networks necessary to circumvent existing barriers to resources, and enabled them to establish the valuable business relationships required to launch their business.

Only two studies (not listed in Table 2.3) were identified to have a particular focus on e-entrepreneurship in Latin America (Garcia-Murillo, 2012; Kuschel, Lepeley, Espinosa, & Gutiérrez, 2015). Garcia-Murillo (2012) explored how small and micro enterprises leveraging ICTs adopt different strategies under suboptimal regulatory conditions, while Kuschel et al. (2015) were mainly concerned with the environmental conditions that affect female entrepreneurs attempting to gain access to capital. Neither of these studies addressed in any detail the complex relationships that exist between DSs’ agency and the environment.

It is evident from the scarcity of literature on e-entrepreneurship with a focus on emerging economies in general, and on Latin America in particular, that empirical research encompassing agency and environmental perspectives is greatly needed. Therefore, it is proposed that this study adopt a theoretical framework able to combine these two dimensions.

2.3 The Role of Agency in e-Entrepreneurship

The aim of this section is to identify the elements of agency that should be incorporated into any theoretical framework designed to study e-entrepreneurship. In this context, agency refers to the “ability of decision-makers
(‘agents’) to make a ‘choice’” (Child, 1997; p. 48). Schumpeter (1934) described ‘the entrepreneur’ as the person who adopts a new technological advance, referred to as ‘invention’; and who then develops the process to take it into the market with a business purpose, referred to as ‘innovation’. Therefore, in the context of e-entrepreneurship, the entrepreneur is understood to be the agent, and the innovation is understood to be the result of the actions undertaken by entrepreneurs to commercialise an invention in order to solve a market need. McQuaid (2002; p. 909) provides additional interpretations of the term ‘entrepreneurship’: a function of the economy; a new business start-up; an owner-manager of a small business; a set of personal characteristics; and a form of behaviour. These categories can be further consolidated into two levels of research: the individual (entrepreneur), and organisational (firm). The following sections review the agency frameworks relevant to e-entrepreneurship at both of these levels.

2.3.1 The individual perspective of entrepreneurial agency

A number of entrepreneurship studies have focused on the personality, skills, conditions and resources necessary to embark upon and succeed in launching a new venture. For McDaniel (2000), entrepreneurship is seen as a function of technological change and development. He proposed that the entrepreneur must have the specific set of skills necessary to achieve successful innovation. Similarly, Miller and Garnsey (2000) identified the entrepreneur as the unit of analysis within a technology diffusion framework, in order to better understand technological advances. They found that the critical role of the entrepreneur in the economy is to conduct and promote the adoption of new
technology. Hindle and Yencken (2004) further proposed that entrepreneurs using high-tech innovation (of which e-entrepreneurs are a subset), share a specific culture and knowledge, related to the entrepreneurs’ ability to understand complex technologies and to drive innovation processes, which is not associated with more traditionally based start-ups. Similarly, with a specific focus on e-entrepreneurship, Serarols-Tarres, Padilla-Melendez, & Del Aguila-Obra (2006) found that educational level, experience in the sector, and individual motivations had a significant correlation with the likely success of DSs. Morris, Kuratko, Schindehutte, & Spivack (2012) further emphasised the relevance of entrepreneurial agency, by developing a model that links an entrepreneur’s previous experience with key events that emerge during the venture’s development, learning processes, affective elements, and decision-making processes. They proposed that “the entrepreneur and venture emerge as a function of ongoing experience, with the venture creating the entrepreneur [just] as the entrepreneur creates the venture” (Morris et al., 2012; p. 11). There are also some studies considering start-ups operating in emerging economies that had similar findings related to the skills and characteristics of entrepreneurs (Kuschel et al., 2015; Pathak et al., 2014).

Each of the studies discussed above focused on an entrepreneur’s personality and actions, which the authors saw as determinant factors in the success of a venture. However, entrepreneurial agency has not only been analysed at an individual level, but also at a firm level.
2.3.2 Organisational level perspective of entrepreneurial agency

A number of organisational studies have proposed that the firm has both the control and the freedom necessary to take a course of action designed to respond to the pressures of the environment (Child, 1972; Conner, 1991; Donaldson, 1999; Grant, 1996; Hrebiniak & Joyce, 1985; Wernerfelt, 1984). The process to exercise such control is referred to as ‘strategic choice’. Child (1997) defined it as:

The process whereby power-holders within organizations decide upon courses of strategic action … strategic choice extends to the environment within which the organization is operating, to the standards of performance against which the pressure of economic constraint has to be evaluated, and to the design of the organization structure itself (Child, 1997; p. 45).

In this definition, the term ‘strategic’ was used to signify matters of importance to an organization as a whole, particularly those bearing upon its ability to prosper within an environment where it faces competition or the need to maintain credibility. It is closely related to the idea of ‘stratagem’, which is a way of attempting to accomplish an objective in interaction with, or against, other (Child, 1997; p. 48).

Child (1997) proposes that strategic choice therefore concentrates on “1) the role of agency; 2) the nature of the organizational environment; and 3) the relationship between organizational agents and the environment” (Child, 1997; p. 48). Moreover, he regards a firm’s decision-making as an iterative organisational learning process, termed the strategic-choice-loop, in which the agents interact with the environment, as illustrated in Figure 2.1.
This process is followed in two parallel cycles, one internally-oriented towards improving organisational design, such as “changes in structure, personnel establishment (size) and use of technology,” and another externally-oriented towards adjusting the position of the organisation in its environment, including the introduction of “new products and services, new suppliers, or the lobbying of public bodies or community organizations” (Child, 1997; p. 70).

Building on the strategic choice perspective, resource-based theory proposes that competitive advantage is derived from the potential for “organizational actors to strategically manage resources under their control” (Scott, 2014; p. 37). Historically, Wernerfelt (1984) proposed that a firm’s resources and capabilities are limited and often difficult to replicate; and thus that strategic decisions should not be made purely based on environmental constraints, but must primarily consider resource optimisation. Some twenty five years later, Teece (2009) argued that the managers of firms should develop ‘dynamic capabilities’ in order to identify shifts in the environment, to enable the redesign of a firm’s resources, with the purpose of maximising opportunities and mitigating risks.
Dynamic capabilities include difficult-to-replicate enterprise capabilities to adapt to changing customer and technological opportunities. They also embrace the enterprise’s capacity to shape the ecosystem it occupies, develop new products and processes, and design and implement variable business models (Teece, 2009; p. 4).

These views have greatly influenced the study of entrepreneurship, providing valuable insights into how start-ups both acquire and develop the capabilities necessary to gain access to and manage limited resources; as well as to operate in uncertain environments, in order to differentiate and grow. For example, Deeds, DeCarolis, and Coombs (2000) propose that the firm-level dynamic capabilities of start-ups to develop new products are a function of a firm’s scientific, technological and managerial skills; and thus determine a firm’s ability to gain early cash flows, external visibility and legitimacy, and early market share; and consequently increase the likelihood of survival. Similarly, Zahra, Sapienza & Davidsson (2006) found that the actions of start-ups are substantially different from those of established firms, and consequently are the key source of heterogeneity between them. They proposed that it is these key strategic differences that allow start-ups to create value and succeed. For example, Reuber & Fischer (2011) identified that there were three Internet-related firm-level resources that influenced DSs’ success the most: online reputation, online technological capabilities and online brand communities. Furthermore, Zahra & Nambisan (2012) found that entrepreneurial activities (agency) to leverage firms’ resources and capabilities are the key drivers of innovation and thereby determine the success or failure of start-ups.

The studies discussed above suggest that the actions of the DSs can be planned in advance with strategic intent. The instrument that captures a firm’s
strategic plan is referred to in the literature as the business model. George and Bock (2011) argue that

The study of business models is pertinent to entrepreneurship research, as often studies tend to examine new ventures or innovation-driven industries. Business models may represent a form of entrepreneurial opportunity creation (George & Bock, 2011; p. 4).

The term ‘business model’ has been conceptualised in a number of different ways for digital businesses, although in all cases it includes a number of specific actions that would be expected to be performed, along with a specific way to manage resources. Timmers (1998; p. 2) defines a business model as:

i) An architecture for the product, service and information flows, including a description of the various business actors and their roles; and ii) A description of the potential benefits for the various business actors; and iii) A description of the sources of revenues (Timmers, 1998; p. 2).

Sako (2012) provides a larger set of features for business models, asserting that

a business model articulates the customer value proposition; it identifies a market segment; it specifies the revenue generation mechanisms; it describes the positioning within the value network or ecosystem; and it also elaborates on competitive strategy by which the firm gains and holds advantage over rivals (Sako, 2012; p. 23).

Furthermore, some have proposed that a company may choose to adopt a different business model in a purely digital context (an e-business model) than when applied to a traditional offline context (Berman, 2012; Weill & Woerner, 2013; Wirtz et al., 2010). Particularly influential in the study of e-entrepreneurship is the work of Osterwalder, Lagha, & Pigneur (2002) on e-business models; whose further study develops and introduces the concept of the business model
canvas (BMC) (Osterwalder & Pigneur, 2010). The BMC is used to create, organise and synthesise a strategic plan, using the following nine building blocks: resources, cost structure, revenue streams, sales channels, customer relationships, customer segments, business partners, value creation activities, and value proposition. This framework, illustrated in Figure 2.2, offers not only a template, but also a process by which to define the components of each building block through multiple rounds of interactions among business managers. Some, such as (Blank & Dorf, 2012; Ries, 2011) have described the BMC as the most basic tool for e-entrepreneurs to use to create and evaluate digital business models at the early stages of the entrepreneurial process; with Blank (2013) suggesting that many start-ups around the world have adopted the model for strategic planning purposes. Consequently, it is clear that any framework developed to study e-entrepreneurship should consider the agency elements built into their business model.

![Figure 2.2 – Business model canvas, adapted from Osterwalder & Pigneur (2010)](image)

The BMC is useful to model DS’s firm-level agency from a strategic intent perspective, but it must also be complemented by an action/execution perspective. The Lean Start-up method (LSM), introduced by Ries (2011), combines the BMC with theories of agile development to guide strategic actions in DSs in a more quantitative approach. This amalgamation advocates the benefits of short and fast cycles of software development tracked with key
performance metrics, in order to encourage e-entrepreneurs to aim to create a minimum viable product (MVP), defined as a minimum commercially feasible form of the product, in the least possible time; and to quickly test whether incremental product versions are successfully adopted by customers. LSM also calls for e-entrepreneurs to constantly evaluate the need to readjust a start-up’s business model, in order to reduce risk and increase their chances of success during the early stages (Blank, 2013; Breuer, 2013).

The short cycles of business model design/redesign and implementation are referred to by Ries (2011) as the ‘build-measure-learn’ cycle (BML). Figure 2.3 provides a graphical representation of this process, illustrating how a start-up is engaged in a progressive learning cycle. The BML starts with a business idea that is documented as hypotheses and organised in the nine building blocks of a BMC. It then develops an MVP, which is tested with potential customers, with tests focused on evaluating both product adoption and the validity of the hypotheses contained in the BMC. The key to this process lies in the start-up’s ability to measure the reaction of customers to the small chunks of product development, in order to decide whether the original business hypotheses should be revised. If customers validate the development of new product features through increased adoption, the business continues engaging in further development and testing of other business hypotheses as outlined in the BMC. If customers reject the product, the start-up may choose to simply fine-tune it, which Ries (2011) describes as ‘optimisation’; or alternatively may need to rethink the overall business model, implementing a ‘pivot’, which is defined as a substantial change to one or several elements of the business model (Ries, 2011). The aim
of this iterative process is to build a scalable business plan that meets the needs of a defined customer segment willing to pay for the product, referred to as ‘product-market-fit’ (Ries, 2011).

Maurya (2012) subsequently offered a more detailed description for how DSs can implement LSM, offering the operational guidelines that were lacking in Ries (2011). Also building upon the LSM, Blank & Dorf (2012) propose a start-up development programme entitled ‘customer development process’ (Figure 2.4); designed to build a DS in four key stages: customer discovery, customer validation, customer creation, and company building. These stages of development are iterative, recognising that DSs’ development process is both nonlinear and unpredictable. In the ‘customer discovery’ stage, DSs build their BMC with their business model hypotheses, and create experiments to test them on potential customers. These tests are used to adjust the business model and to identify both the right customers and the suitable market for the product. This stage concludes with the creation of an MVP, and when the DS has tested both customers’ perceptions of the business problem, and customers’ intention and
need to buy the product. The ‘customer validation’ stage is intended to prove that the business model is both repeatable and scalable. Through this stage the DS continues to adjust its business model until it is scalable and profitable. In the ‘customer creation’ stage, the DS dedicates resources to growing the customer base and expanding to other markets. The final ‘company building’ stage is associated with the transition from temporary organisation in search of a scalable business model into an established firm. A DS entering this stage has already proven that it can execute and grow into a profitable and sustainable business.

Figure 2.4 – DSs’ stages of development in the customer development process (Blank & Dorf, 2012)

While LSM is not uniquely applicable to DSs (Pease, Dean, & Van Bossuyt, 2014), it is especially relevant to them. This is evidenced by its wide adoption by e-entrepreneurs in both Latin America (Carmel & Richman, 2013; Cervantes & Nardi, 2012; Hernández & González, 2016; Sarmento, 2016) and around the world (Breuer, 2013; Honig & Hopp, 2016; Hui, 2013; Jaspers & Hak, 2014; Lalic, Calopa, & Horvat, 2012; May, 2012; Qvillberg & Gustafsson, 2012; Yau & Murphy, 2013) to guide strategic definition and execution. However, this study has uncovered a remarkable gap in the literature when seeking research that considers the potential shortcomings of LSM to explain the agency of DSs,
although some recent studies have examined the challenges of implementing
LSM in DSs located in mature economies (Björk, Ljungblad, & Bosch, 2013; Ghorashi, 2015; Nilsen & Ramm, 2015; York & Danes, 2014). All concluded that
the implementation of LSM is challenging for DSs, and that the framework has a
few operational shortcomings, such as a lack of defined metrics, a lack of decision
making tools to identify when to move from one stage to another, and a lack of
objective method to evaluate the validity of the hypothesis stated in the BMC.
Only three studies superficially explored the implementation of LSM in Latin
America (Chassagne, 2015; Martin, 2016; Sarmento, 2016); with Martin (2016)
focusing on the marketing aspects of product development rather than on LSM
itself. Sarmento (2016) focused on how accelerators use LSM to support the
development of DSs, and only suggested that LSM was helpful. Chassagne
(2015) considered in greater detail LSM implementation, concluding that DSs in
Brazil faced challenges in implementing LSM, but the study lacks the theoretical
framework necessary to pinpoint specific shortcomings or to provide detailed
explanations.

While LSM was not originally conceived as a theoretical framework to
facilitate academic study surrounding e-entrepreneurship, some authors have
suggested that there is enough evidence in the academic literature to support its
main five constructs: user and customer involvement, iterative new product
development, experimental new product development, the MVP, and
entrepreneurial thinking (Frederiksen & Brem, 2017; Nilsen & Ramm, 2015).
Therefore, because of its importance to business practice, LSM provides a
relevant framework for the study of DSs’ firm-level agency. Moreover, the scarcity
of studies that consider the implementation of LSM in Latin America provides an area of potential contribution for this research.

### 2.3.3 Critique of agency-based perspectives

This section has illustrated that the role of agency in e-entrepreneurship is twofold. At an individual level, studies have found that entrepreneurs’ skills and actions are significant determinants of DSs’ survival; while at a firm level, studies based on the strategic choice paradigm have found that DSs’ choices and actions determine their innovation process and are key to understanding their ability to differentiate and succeed. Regarding the latter, the business model literature provides a useful conceptualisation of DSs’ strategic intent, with BMC providing a vehicle that can be easily operationalised in empirical research. This chapter has also emphasised the value of some of the constructs in LSM to model DSs’ firm-level agency.

However, whilst each of these conceptual elements is both useful and necessary in understanding DSs’ agency, they only provide a partial explanation of e-entrepreneurship. Jack and Anderson (2002; p. 10) argue that “to understand entrepreneurship we must take account of both structure and agency, we can then appreciate how societal influences shape entrepreneurial agency and how agency redefine or develop structure”.

However, the literature reviewed in this section has looked solely at the role of agency, paying limited attention to the role of the environment in e-entrepreneurship. A number of entrepreneurial frameworks (Kelestyn et al., 2017; Martinez & Williams, 2010; Morris, Kuratko, & Schindehutte, 2001) acknowledge
the importance of identifying and modelling environmental constraints on agency, but have failed to provide the comprehensive framework required to do so. Other research analysing strategic choice has also attempted to reconcile the environmental and agency perspectives (Child, 1997); however, this research has largely been focused on enriching the latter rather than building a framework that properly models the complexities of the former.

It is therefore clear that both the individual level and firm-level agency perspectives inherit the limitations of existing strategic-choice theoretical models, by failing as they do to properly account for the important environmental elements that influence and constrain the range of actions available to DSs. As will be discussed in the following sections, the application of any one of these single lens frameworks to the study of e-entrepreneurship renders any analysis incomplete.

2.4 The Role of Environment in e-Entrepreneurship

The purpose of this section is to investigate the environmental elements that a conceptual framework on e-entrepreneurship should encompass. A number of studies with a focus on entrepreneurial agency have already recognised the importance of having a favourable environment for the development of start-ups (Bull & Willard, 1993; Carroll, 1984; Van de Ven, Hudson, & Schroeder, 1984). They propose that both entrepreneurs and firms have the intentional freedom to use their resources to overcome environmental elements, or at the very least, to outperform – through strategic intent – other firms operating in the same environment. However, other scholars have proposed that agents’ responses to the pressures of the environment are determined by its
structure (Bruton, Ahlstrom, & Li, 2010). For them, the environment plays an overarching role in the emergence and development of start-ups.

In organisational studies, the environment is examined at different levels. For example, it can be studied at a micro level with an organisational business unit, or at a macro level in a global trading framework. Research has suggested that organisations operate in systems that are nested, where lower levels are included in higher levels. Nonetheless, these levels are considered to be “porous in the sense that activities and meanings occurring on one level are often linked to and activate activities and meanings at other levels” (Scott, 2014; p. 105). Scott further proposed that to identify the environmental level at which an organisation should be studied, the key underlying dimension is the scope of the phenomena encompassed, whether measured in terms of space, time, or number of persons affected... [the environmental] level may be usefully operationalized as the range of jurisdiction of the institutional form (Scott, 2014; p. 105).

Thus, Scott introduced, arguably somewhat arbitrarily, six levels for the study of organisations: world system, societal, organisational field, organisational population, organisation and organisational subsystem. Figure 2.5 illustrates this mapping of levels, with the associated schools of thought that have studied the role of the environment in organisations.
Scott defines organisational populations as “a collection or aggregate of organizations that are ‘alike in some respect,’ in particular to ‘classes of organizations that are relatively homogeneous in terms of environmental vulnerability” (Scott, 2014; p. 107). These levels can serve to define the concept of ‘industry’, which will be discussed later. Given their common properties, DSs could be categorised at this level as an organisational population. The organisational field encompasses the organisational population and expands it further, with the field considered as “a level that identifies a collection of diverse, interdependent organizations that participate in a common meaning system” (Scott, 2014; p. 106). This level is particularly relevant for research on DSs, since it relates to the concept of entrepreneurship ecosystems used by others to study e-entrepreneurship (Isenberg, 2011; Kantis & Federico, 2012; Neck et al., 2004).
It not only considers a population of similar organisations (i.e. DSs), but also the other organisations with whom these bodies interact (e.g. governments, accelerators, angel investors and venture capitalists).

The societal level refers to elements such as regulations, norms shared by society and the local culture (Scott, 2014). The literature on e-entrepreneurship reviewed in Table 2.3 that focused on Latin America (Arruda et al., 2013; Cervantes & Nardi, 2012; de Medeiros Bezerra et al., 2012; Kantis et al., 2012) largely adopted an environmental perspective at the societal level. These studies showed that the societal environment imposes challenges and pressures that are common to all organisations, including those outside of the DSs' organisational field, and that though they may impact DSs in a particular way, they must be studied at a higher level in order to be properly understood.

The organisational field and the societal level are the two most common levels at which research has examined how the environment influences the creation and development of new ventures; and consequently, the following sections explore the literature from these two perspectives.

### 2.4.1 Organisational-field level perspectives of the environment

Drawing upon the school of evolutionary economics, Moore (1993) suggested that the framework used to study natural ecosystems could be applied to the study of competitive business environments. In order to model the dynamic of complex interactions between firms and their environment at the organisational field level, Moore (1993) proposed an ecology framework based on the constructs of ecological contributors (leaders or followers), ecosystem stages (birth,
expansion, leadership, self-renewal, co-evolution (mutual dependent
development), and competition. Moore (2006) referred to the business
environment of a firm as the ‘business ecosystem’, which he defined as

The intentional communities of economic actors whose individual
business activities share in some large measure the fate of the whole
community. … A business ecosystem … can also be conceived as a
network of interdependent niches that in turn are occupied by
organizations. These niches can be said to be more or less open, to the
degree to which they embrace alternative contributors (Moore, 2006; p.
3).

Moore (1996) applied the notion of ecosystems in order to describe the
actors that influence the business activity of a firm; presenting the business
ecosystem as the unit of analysis. In this way, Moore (1996) expanded the
analysis of the competitive environment from an organisational population level
(industry) to an organisational field (ecosystem) level. In this model, attention is
placed on the structure of the business ecosystem and the interactions among its
contributors.

Several authors have since adopted this ecology framework in order to
study a variety of phenomena, including the entrepreneurial ecosystem. Table 2.4
presents a chronological sample of entrepreneurship studies based on economic
ecology. In all of them, the entrepreneurial process relies upon the relationships
between the start-ups and other organisations in the business ecosystem. The
quality and structure of such relationships, and the resources available to the
organisations are seen as the key variables necessary to build a successful
entrepreneurial ecosystem.
<table>
<thead>
<tr>
<th>Study</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Van de Ven et al. (1984)</td>
<td>Under the construct of population ecology proposes that “it is the distribution of resources in society, not the motives, decisions, or behaviour of individuals, that is the driving force which determines whether organizations will be created” (Van de Ven et al., 1984; p. 88).</td>
</tr>
<tr>
<td>Birley (1986)</td>
<td>Looked at “the extent to which the entrepreneur interacts with the networks in his local environment during the process of starting a new firm” (Birley, 1986; p. 107).</td>
</tr>
<tr>
<td>Van de Ven (1993)</td>
<td>Proposed that “it is the entrepreneur who constructs and changes the [industrial] infrastructure” (Van de Ven, 1993; p. 211).</td>
</tr>
<tr>
<td>Neck et al. (2004)</td>
<td>Studied high-tech new venture creation and pinpointed the lack of research on the relationships between actors of the entrepreneurial system and its environment. Considered the environmental factors conducive to entrepreneurship and proposed six components of the entrepreneurial system: incubators, spin-offs, informal networks, formal networks, physical infrastructure, and culture. Within formal networks, they included university, government, professional and support services, capital services, talent pool and large corporations.</td>
</tr>
<tr>
<td>Corallo &amp; Protopapa (2007)</td>
<td>Explored the limitations of Moore’s models and used the concept of niche construction to emphasise the interaction of individuals with their environment. Niche construction is defined as “the process whereby organisms, through their activities and choices, modify their own and each other’s niches” (Corallo &amp; Protopapa, 2007; p. 4).</td>
</tr>
<tr>
<td>Zahra &amp; Nambisan (2012)</td>
<td>Followed Moore’s business ecosystem framework, but combined it with entrepreneurial strategic thinking to propose four models of business ecosystems from a firm perspective: orchestra, creative bazaar, jam central, and MOD station</td>
</tr>
<tr>
<td>Sipola, Mainela, &amp; Puhakka (2013)</td>
<td>Looked at start-up ecosystems through the competence bloc theory and cultural-historical-activity theory in search of the economic actors that are part of the ecosystem.</td>
</tr>
</tbody>
</table>

Table 2.4 - Sample of economic ecology literature with a focus on entrepreneurship

More recently, a number of authors have turned their attention to the entrepreneurial ecosystems present in emerging economies (Arruda et al., 2013; Borges Lemos, 2011; Cervantes & Nardi, 2012; Hernández & González, 2016; Isenberg, 2010; Kantis et al., 2012). For example, with specific emphasis on Latin
America, Kantis et al. (2012) formulated a number of policies designed to support the development of national ecosystems of entrepreneurship, which they defined as

A set of different interconnected actors within a specific area, which includes at least the following building blocks: universities and R&D institutions, qualified human resources, formal and informal networks, governments, angel investors and venture capitalists, professional service providers, and an enterprising culture which connects all of these factors in an open and dynamic way (Kantis & Federico, 2012; p. 2).

Table 2.5 presents a summary of the literature on entrepreneurial ecosystems that considers the new set of organisations that have emerged to provide structural and strategic support to e-entrepreneurs. Although some have asserted that the impact that these organisations have had in facilitating the innovation process is limited (Oakey, 2007), the studies summarised in Table 2.5 assert that they have had a substantial and positive impact on the creation and growth of DSs.

<table>
<thead>
<tr>
<th>Study</th>
<th>Organisation</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pitelis (2012; p. 1371)</td>
<td>Clusters</td>
<td>Clusters are a form of economic organisation that can involve [inter-firm cooperation], with net advantages that can render it superior to integration, even when cluster firms are involved in similar and complementary activities. Such clusters may be organised, promoted and managed by a for-profit organisation, but are more commonly created by not-for-profit or governmental organisations, to promote economic and technological development. The purpose of the cluster is to foster cooperation and provide real estate rather than particular assistance or mentoring to the firms within the cluster.</td>
</tr>
<tr>
<td><strong>Carayannis &amp; von Zedtwitz (2005; p. 103)</strong></td>
<td>An incubator is defined as an organisation oriented to facilitating entrepreneurs and early-stage start-up companies; competing with consulting firms, real-estate agents, and other companies for the most interesting and valuable start-ups. Incubators differentiate themselves through their competitive scope, strategic objectives and service package.</td>
<td></td>
</tr>
<tr>
<td><strong>P. Miller &amp; Bound (2011)</strong></td>
<td>Accelerators appeared in response to the need to provide more specialised and personalised support to technology-based ventures. Accelerators have the following characteristics that differentiate them from the incubators: accelerators accept open applications for support from entrepreneurs, but are highly competitive; they participate in the start-up with pre-seed or seed investment in exchange of equity; they usually support only entrepreneurial teams instead of single entrepreneurs; they offer time-limited support in the form of methodical development programmes, which are ‘boot camps’ designed to develop maturity and test the start-up business model; they are also often accompanied by mentoring; they take several start-ups through this development programme in parallel.</td>
<td></td>
</tr>
<tr>
<td><strong>Rao (2013)</strong></td>
<td>Company builders are organisations that take a stake in a DS and remain engaged in building it. Different to an accelerator, which disengages after the acceleration process, company builders remain as part of the management team, and work actively in sales and marketing and product development activities, to support business growth. Company builders provide entrepreneurial expertise and financial and human resources to help build start-ups at scale.</td>
<td></td>
</tr>
</tbody>
</table>

**Table 2.5 - Organisations providing innovation support to e-entrepreneurs**
The literature investigating business ecosystems frameworks reveals that firms operate in close interdependency with other organisations, and therefore, drawing upon Moore (2006) and Kantis et al. (2012) definitions, the organisational field level environment of DSs could be defined as the intentional communities of interconnected actors, including universities and R&D institutions, qualified human resources practitioners, formal and informal networks, governments, angel investors, venture capitalists, incubators, accelerators, company builders, professional service providers, and cultural agents (i.e. the media) whose individual business activities share (to some degree) the fate of the DSs. Consequently, any research framework on e-entrepreneurship must incorporate these elements in order to successfully model the relationships between the population of DSs and the rest of the actors in their organisational fields.

2.4.2 Broader societal level perspectives of environment

Institutional theory is another extensive body of research that considers the role that the environment plays in organisational development. Although it has been applied to study organisations at many different levels, scholars of entrepreneurship have largely applied institutional theory at a societal level (Avgerou & Li, 2013; Effaha, 2013; Jack & Anderson, 2002). More complex than a single unified theory, institutional theory is best described as a collection of theories, with versions that are sometimes complementary and sometimes conflicting. The definition of ‘institution’ varies widely, often depending on the author and the perspective that they apply. Scott (2014) offers an extensive review of these perspectives, proposing that “the existing literature is a jungle of conflicting conceptions, divergent underlying assumptions, and discordant
voices” (Scott, 2014; p. vii). Such discordance may be due to the ambitious aims of institutional theory, and also to the rather flexible constructs employed by institutional theorists, both of which have provided fertile ground for multiple interpretations and applications. Many of the constructs employed by institutional theorists can be expanded or reduced to different levels of institutions, and can be used to generate both general principles or to study a particular case. Recognising the challenge associated with incorporating this wide spectrum of definitions, Scott offers his own ‘omnibus conception’ of institutions, defining them as follows:

Institutions comprise regulative, normative, and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life (Scott, 2014; p. 56)

Arguably the most significant concept within Scott’s definition is related to ‘stability’, which refers to the notion that institutions induce agents to behave in a certain way because it is assumed that it is the most appropriate. Furthermore, institutions are believed to exercise pressure on agency by supporting certain actions and limiting others. Therefore, institutions are at the same time defining the environment in which agents operate and are themselves reinforced by the same agents’ behaviour. Scott (2014) proposes that institutions are based on three areas of organisational interaction with their environment, which he refers to as pillars: regulative, normative and cultural-cognitive. Table 2.6 summarises the elements that facilitate the creation and maintenance of these pillars on which institutions stand.
Table 2.6 - The three pillars of institutions from Scott (2014)

The regulative pillar describes “the capacity to establish rules, inspect others’ conformity to them, and, as necessary, manipulate sanctions – rewards or punishments – in an attempt to influence future behaviour” (Scott, 2014; p. 59). Formal rules, such as laws, and informal practices, such as mechanisms to draw shameful attention to non-compliant individuals, are both a part of this pillar. Such rules are not only necessary to restrict certain actions, but also to allow for other actions to take place. For example, in the context of entrepreneurial activity, certain policies and regulations are directed towards protecting established organisations, while others are designed to foster competition and innovation (Kantis et al., 2012).

The normative pillar includes:
Both values and norms. Values are conceptions of the preferred or the
desirable, together with the construction of standards to which existing
structures or behaviours can be compared or assessed. Norms specify
how things should be done; they define legitimate means to pursue
valued ends (Scott, 2014; p. 64).

Such values and norms also define who should do what and how this
should be done, resulting in the definition of roles. They also restrict or empower
behaviour according to how appropriate such behaviour may be for a particular
agent in a particular situation, depending on its role. For example, Jack and
Anderson (2002) suggest that entrepreneurial success depends on whether other
members of the local society perceive the entrepreneur as a credible and
accredited person to perform the job entrusted to them. In order for entrepreneurs
to gain the confidence of others who will then start doing business with them, they
must conform to the appropriate way of doing business in the local environment.

The cultural-cognitive pillar focuses on:

The shared conceptions that constitute the nature of social reality and
create the frames through which meaning is made...Symbols – words,
signs, gestures – have their effect by shaping the meaning we attribute
to objects and activities. Meanings arise in interaction and are
maintained and transformed as they are employed to make sense of the
ongoing stream of happenings (Scott, 2014; p. 67).

As is clear, this pillar is inherently social, it implies that behaviour is a
function of the interpretation of the given reality, and that any such interpretation
is communicated and shared through a series of symbols. It is commonly
accepted that the use of symbols shapes behaviour by both enabling and
restricting it, and that the common use and interpretation of symbols enables
interaction, communication and collaboration, whilst simultaneously also defining
their limits. It is asserted that if an individual’s internal interpretations of the
external world and its symbols differ from the societal norm, communication and collaboration are not possible. Furthermore, Scott (2014) proposed that

The affective dimension of this pillar is expressed in feelings from the positive affect of certitude and confidence on the one hand versus the negative feelings of confusion or disorientation on the other. Actors who align themselves with prevailing cultural beliefs are likely to feel competent and connected; those who are at odds are regarded as, at best, ‘clueless’, or worst, ‘crazy’ (Scott, 2014; p. 70).

For example, in some cultural environments, preconceptions and understanding of what an e-entrepreneur is, coupled with the low probability of success associated with start-ups, reduces the desirability of building such a business (Rios, 2014); whilst in other cultures, e-entrepreneurship is strongly supported by a shared social recognition of the value and economic need for taking certain business risks (Lee, 2014).

Institutional pressures are believed to drive organisations to conform to certain structures and procedures. These structural aspects are reflected in an “emphasis on formality, offices, specialized functions, rules, records, routines” (Scott, 2014; p. 184). The competitive processes operating amongst organisations in order to gain access to limited resources, force these organisations to adapt their internal structures to fit the institutional environment; as otherwise they face being deselected by the same environment. Such institutional fitness is described as “the acquisition of a form regarded as legitimate in a given institutional environment” (Scott, 2014; p. 185); and thus ‘legitimacy’ is the measure of conformity to the institutional environment. The more legitimate an organisation’s behaviours are, the greater the fit with its environment, and consequently, the greater its chance of survival. In this way,
organisations displaying the same environmental conditions tend to acquire similar structures, which institutional theory refers to as the principle of 'isomorphism'.

Despite institutional theory’s focus on how the environment pressures organisations to adopt isomorphic structures and behaviours, it nevertheless also allows for a degree of variation among organisations. Scott (2014; p. 217) recognised that “organizations are creatures of their institutional environments, but most modern organizations are constituted active players, not passive pawns.” In summarising the work of multiple authors, Scott (2014) offers the following mechanisms to help explain organisational diversity within identical institutional forces:

Varying carriers whose characteristics or mode of transmission alter the message; varying translations of institutional rules; misunderstandings or errors in the application of rules; varying exposure or susceptibility to institutional rules; varying attributes or relational connections that affect knowledge of or response to institutional pressures; adaptations or innovations by users adopting institutional forms; competing models being combined into varying hybrid forms, strategic responses by individual organizations to institutional pressures; strategic responses by networks or associations of organizations (Scott, 2014; p. 216).

This further summary demonstrates the way that institutional theory acknowledges that organisations may respond and adapt to the same environment in different ways:

From a concern with one-way determinant institutional effects, most contemporary researchers are instead crafting research designs to examine the complex recursive processes by which institutional forces both shape and are shaped by organizational actions (Scott, 2014; p. 218).
Table 2.7 provides a sample of institutional-theory-based studies on entrepreneurship that exemplify how the institutional framework has been applied to consider the role of the environment at a societal level. These studies reveal the ways in which institutional theory can contribute to the study of e-entrepreneurship in emerging economies, by providing constructs that can be operationalised in empirical research to model the relationships between DSs and their environment. In the first instance, Scott’s four pillars can be used to identify the environmental elements specific to Latin America that constrain the ability of DSs to grow, when compared with their counterparts in more mature economies. Secondly, the conceptualisation of both lock-in mechanisms and elements of differentiation can be useful when seeking to explain commonalities and differences among DSs operating within the same environment.

<table>
<thead>
<tr>
<th>Study</th>
<th>Contributions and Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davidson &amp; Vaast (2010)</td>
<td>Proposes that e-entrepreneurship is inscribed not only in a social and cultural institutional environment, but also in a technical and material environment. They modelled the relationship between e-entrepreneurs and their material environment and institutional theory to model the relationship between e-entrepreneurs and the social environment. They also propose that there are three forms of e-entrepreneurship: knowledge-based, business-based, and institutional entrepreneurship. Calls for future research that looks at the interdependencies between these three variables. The study is empirically grounded in a case study of a DS, and provides support to the call for a more unified theoretical framework that incorporates environment-based and actor-based elements of e-entrepreneurship, but falls short of providing one.</td>
</tr>
<tr>
<td>Bruton et al. (2010)</td>
<td>Offers a literature review of the intersection of Institutional Theory and Entrepreneurship, finding three areas of research:</td>
</tr>
</tbody>
</table>
institutional setting, legitimacy and institutional entrepreneurship. The authors conclude that the literature exhibits three major shortcomings: a reliance on single perspective of institutional theory, reliance on the examination of culture, and based on single country examinations. Calls for future empirical research including multiple countries and organisational fields rather than firm or industry specific, and micro-level agency perspectives in combination with macro-level institutional perspectives.

Leveraging constructs of institutional theory and entrepreneurship, this multi-country analysis finds that institutional properties condition the adoption of e-commerce. The study highlights that the quality of the institutional environment is more important for the development of e-commerce in emerging economies.

The study focuses on e-commerce adoption in general rather than on the creation of specific e-commerce-based ventures. The size of the sample may reflect the conditions for businesses in general rather than the dynamics specific to DSs. The macro-level focus of the study leaves a large gap when seeking to explain the micro-level dynamics of specific DSs in emerging economies that have successfully adopted e-commerce to start new ventures.

Eeffaha (2013) Leveraged the three institutional pillars to study how regulative, normative and cognitive institutions impact upon e-entrepreneurship in the emerging country context of Ghana. The study advises that e-entrepreneurs in emerging countries should understand the limitations imposed by the local institutional environment and not assume that imported methodologies or technologies will work in the same way as in more mature economies. The study identified institutional isomorphic mechanisms that affect all firms in the institutional environment, and explains a diversity of firm results through variation in firm responses to the lock-in mechanisms.

The author recognises the limitations of the institutional framework that limits the study to look at environmental constraints, and which comes at the expense of a greater understanding of firm-level innovation processes.
The research found that the culture of e-commerce and consumption in modern China are locally specific institutional aspects that have enabled e-entrepreneurs to create DSs in recent years. The authors propose that social relationships could be used to study how institutional mechanisms foster e-entrepreneurship. E-entrepreneurs are embedded in social relationships at two different levels: local and virtual; and each of these levels is defined by different institutional mechanisms. A virtual environment expands the institutional environment and exposes e-entrepreneurs to different opportunities and environmental pressures than those faced by their more traditional counterparts. The organisational structure of the industry is considered to be a key factor for the development of DSs.

The authors recognise that the findings are not generalisable to other emerging economies, due to the specific nature of the local environment and industrial structure. The research is focused on the institutional aspects that enable the creation of DSs, but does not address questions about sustainability or DSs’ strategic responses to institutional constraints.

Table 2.7 - Selection of institutional theory studies, with a focus on e-entrepreneurship

2.4.3 Critique of environment-based perspectives

The literature on the organisational field reviewed in this chapter is primarily concerned with modelling the relationship between firms and their organisational environment, through the dynamics of ecology-based selection processes. In these processes, ecosystem contributors are viewed as agents conditioned by the structure in which they operate, with their actions deemed a necessary response to the specific demands of the structure, rather than being driven by any strategic intent. For whilst a number of these studies have recognised the unequal emphasis that economic ecology places on the role of the environment; and have tried to account for this agency in their frameworks, these attempts fall short in reconciling the complex interactions that exist between
the environment and firms; and therefore, do not offer a unified theoretical framework. Nevertheless, despite this obvious weakness, these studies have contributed to an understanding of e-entrepreneurship, by identifying the key contributors to the DSs’ organisational field. Consequently, a framework that models the interactions that DSs have with their environment must also accommodate DSs’ relationships with organisations in their field, including universities and R&D institutions, governments, angel investors and venture capitalists, service providers, cultural agents (e.g. the media), and large corporations.

Literature on the societal level has moulded institutional theory to model the entrepreneurial process as both enabled and conditioned by the environment, removing firms that do not achieve institutional fitness. These studies contribute to the study of e-entrepreneurship by providing frameworks that model how the environment affects the creation and survival of DSs through institutional fitness and isomorphism, both of which pressure DSs to adopt similar forms and behaviours. However, these studies omit important elements of agency-based frameworks that offer important contributions to the study of e-entrepreneurship. It is clear that whilst institutionalism has recognised that organisational agents shape institutions, there remains an unresolved tension between institutional theory and the various strategic choice perspectives, for whilst such perspectives accept that the range of choices available to agents may be limited by the institutional environment, they do not accept that agents can be left without choice, since this would contradict the potential of firms to act proactively and with strategic intent to change their environment; and simply react to environmental
pressures. However, as Scott (2014; p. 214) argues: “the strategic perspective views legitimacy as another type of resource – a cultural resource to be extracted from the environment”, cautioning that “institutional theorists not lose sight of the distinctive properties of the institutions” (Scott, 2014; p. 213) because they may ignore the social-fact quality of institutions that, at times, make organisations behave without choice, and that the institutional environment cannot be treated as a constraint that can be managed like any other. This unresolved debate offers an opportunity for this study to contribute to academic research, by moving beyond single lens frameworks based purely on agency or environmental paradigms; instead devising new frameworks that can capitalise upon the strengths of both theoretical perspectives in order to model in a more comprehensive manner the complex interactions between DSs and their environment.

2.5 Agency vs. Environmental Resolution

The purpose of this section is to demonstrate the need to incorporate both agency and environmental elements in the conceptual framework of this research. Theories primarily concerned with how the environment forces organisations to take market niches and respond to its demands (e.g. business ecosystems and institutional theory) have over time been gradually moving from a deterministic position towards one that better accommodates elements of agency, recognising that firms can adapt with some strategic intent. This is illustrated in neo-institutionalism inter alia, accepting that the environment is the result of the actions taken by organisational agents. However, neo-institutional frameworks continue to place much more emphasis on environmental forces in
firms that do not achieve institutional fitness, than on the wider role of strategic and discretionary management of organisational resources to adapt and modify the environment. Furthermore, these frameworks advocate propositions that are too abstract to account for the role of strategic agency, which in turn makes them difficult to implement in empirical research (Scott, 2014). Theories focused on the role that agency and strategic choice have in assisting organisations to adapt to the environment have tried to incorporate the notion that managers are embedded in a socio-cultural environment that conditions their interpretation of that environment (Jack & Anderson, 2002; Uzzi, 1997). However, these frameworks have failed to acknowledge the considerable role played by the complex and socially rooted environmental selection forces intrinsic to neo-institutional theories. As illustrated in Table 2.8, such tension has been at the centre of many strategic and organisational management studies:

A comparison of strategic management and organizational ecology theories highlights the nature and source of this debate. While organizational ecology theories focus on selection, variation, and retention processes for explicating the evolution of populations of organizations, strategic management theories focus on firm-level adaptation as a function of strategy and organization design (Lewin & Volberda, 1999; p. 519).

<table>
<thead>
<tr>
<th>Theoretical Roots</th>
<th>Dominant Paradigm</th>
<th>Selection / Adaptation</th>
<th>Managerial Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sociology</td>
<td>Population Ecology</td>
<td>Population selection and structural inertia</td>
<td>Management makes no difference; new entrants redefine industries; established firms should focus on what they do best until selected out.</td>
</tr>
<tr>
<td></td>
<td>Institutional Theories</td>
<td>Population isomorphism based on industry norms and shared logics</td>
<td>Established firms should adopt a faster follower strategy.</td>
</tr>
<tr>
<td>Economics</td>
<td>Industrial Organization</td>
<td>Level of industry attractiveness and competitive advantage within that industry</td>
<td>Managers should choose an attractive industry; define performance frontier for a generic strategy; reduce intra-industry rivalry.</td>
</tr>
<tr>
<td>---</td>
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<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Transaction Costs</td>
<td>Minimization of transaction costs</td>
<td>Managers should focus on relative coordination costs of transacting inside versus outside the firm.</td>
<td></td>
</tr>
<tr>
<td>Behavioural Theory of the Firm</td>
<td>Satisfying multiple stakeholders, structural inertia due to satisficing, uncertainty avoidance and slack</td>
<td>Periodic restructuring and rationalization. Exploration requires strategic intent to allocate slack to innovation.</td>
<td></td>
</tr>
<tr>
<td>Evolutionary Theories</td>
<td>Success reinforces incremental improvements and proliferation of routines as source of inertia (e.g. sunk costs, commitments, social structures).</td>
<td>Managers should overcome preference for improvement of prior and commensurate skills that result in incremental innovations.</td>
<td></td>
</tr>
<tr>
<td>Resource-Based Theory of the Firm</td>
<td>Idiosyncratic resources are the basis of sustained competitive advantage; causal ambiguity in evaluating own and competitor core competencies is the source of sub-optimal performance.</td>
<td>Managers should maximize unique core competency, correct causal ambiguity in judging own and competitors’ core competencies.</td>
<td></td>
</tr>
<tr>
<td>Dynamic Capabilities / Knowledge-Based Theory of the Firm</td>
<td>Sustained competitive advantage based on dynamic capabilities and intellectual capital</td>
<td>Management should focus on knowledge creation and integration, continuously renew knowlege base.</td>
<td></td>
</tr>
<tr>
<td>Strategy and Organization Design</td>
<td>Contingency Theory</td>
<td>Environment source of variation in performance</td>
<td>Top management must interpret and react to changes in environment, maintain fit through changes to organization form.</td>
</tr>
</tbody>
</table>
Strategic Choice  |  Variation in performance results from environmental changes and from firm shaping of environment | Managers should achieve dynamic fit through monitoring and shaping of environment

Organizational Learning  |  Variation in performance results from changes in environment and organization ability to adapt through learning | Managers need to balance single and double loop learning

Life cycle / punctuated equilibrium  |  Periods of adaptation and consolidation are followed by periods of radical competence-destroying change | Managers should anticipate radical change by managing dichotomy between incremental and radical innovation

---

**Table 2.8 - Single-lens theories informing selection-adaptation discourse (Lewin & Volberda, 1999)**

A number of alternatives have been proposed to resolve the debate between theories that focus on the selection forces of the environment, and theories that focus on intentional strategic adaptation initiated by agency.

### 2.5.1 Institutional entrepreneurship

This chapter has revealed that institutional theory has been used to study the role of the environment within organisations. Although this has been the primary focus of early studies on institutionalism, neo-institutionalism goes beyond this, in order to further outline the recursive nature of the relationship between institutions and the agents that create, maintain, and modify them:

Through the history of social science, there has existed a tension between those theorists who emphasize structural and cultural constraints on actions and those who emphasize the ability of individual actors to “make a difference” in the flow of events... the thrust of institutional theory is to privilege continuity and constraint in social structure, but that need not preclude attention to the ways in which
individual actors take action to create, maintain, and transform institutions. (Scott, 2014; p. 92).

In studies adopting a naturalistic perspective, institutionalisation is regarded as a natural and undirected process, where “institutions are not created by the purposeful actions of interest-based agents, but rather emerge from the collective sense-making and problem-solving behaviour of actors confronting similar situations” (Scott, 2014; p. 114). However it is crucial to emphasise that this view can be contrasted with that of scholars who propose that “embracing an agent-based view stress[es] the importance of identifying particular actors as causal agents, emphasizing the extent to which intentionality and self-interest are at work” (Scott, 2014; p. 115). Scott (2014) explains the concept of institutional entrepreneurship as a mechanism for institutional construction; offering four distinctions:

Organizational entrepreneurs are actors who pursue their objectives by founding a new enterprise—a new organization, but within an existing institutional mould. Such efforts entail the mobilization of resources invested.

Institutional entrepreneurship refers to the activities of actors who have an interest in particular institutional arrangements and leverage resources to create new institutions or to transform existing ones.

Technical and organizational population-level institutional entrepreneurs combine human and technical resources in novel ways to create new types of products, processes, or forms of organizing, giving rise to innovative organizations.

Field-level institutional entrepreneurs create or significantly transform institutional frameworks of rules, norms, and/or beliefs either working within an existing organizational field or creating frameworks for the construction of a new field (Scott, 2014; p. 117).
Within an institutional entrepreneurship framework, e-entrepreneurs clearly meet the definition of technical and organisational institutional entrepreneurs, changing the environment at a population-level by giving rise to innovative organisations (Garud, Hardy, & Maguire, 2007). In addition, institutional entrepreneurship also introduces the concept of organisational field-level agents, who may also play a role in shaping the DSs’ environment, by creating the rules and culture in which they operate. Cervantes & Nardi (2012) provide a clear example of institutional entrepreneurship, with their empirical study of a grass-roots community of e-entrepreneurs who coalesced around a non-governmental organisation (NGO) called Start-up Weekend, to promote the development of the Mexican e-entrepreneurial ecosystem. Cervantes & Nardi (2012) found that the organisation being investigated played a significant role in the creation of the cultural dimension of the institutional environment of Mexican DSs:

Start-up Weekend worked as a catalyst for building a culture of innovation, strengthening the start-up community, and in some cases forming start-up companies. Participants primed themselves with business and technical knowledge. Entrepreneur communities formed in previous face-to-face events and through social media, served to create an environment of trust and sharing during and after each Start-up Weekend event (Cervantes & Nardi, 2012; p. 11).

Cervantes & Nardi’s research provides clear evidence that institutional entrepreneurship adds weight to the theory that agency shapes the environment, and consequently that it must therefore be incorporated into the study of e-entrepreneurship. Furthermore, the conceptual definitions of entrepreneurship detailed above are particularly relevant to the study of DSs in emerging economies, because they distinguish the role of e-entrepreneurial agency at a
firm-level in shaping the DSs’ environment, from the role of other types of entrepreneurial agency acting at an organisational field-level.

### 2.5.2 Embeddedness

The concept of ‘embeddedness’ has emerged from economic sociology; recognising that the economy is a social phenomenon that cannot be studied independently of its social and cultural environment, and presupposes that agency is conditioned by the agent’s environment. Granovetter (1985) proposed that embeddedness is the recognition that economic activity is not merely dependent upon individual decision makers behaving in their own self-interest related to the aggregate to generate economic outcomes; but is also a function of the various social interactions and network of relationships – in short, that economic activity is embedded in social interactions. This is in stark contrast to the position advocated by institutional theory, which proposes that agency is determined only by the environmental structure. Nevertheless, whilst embeddedness allows for the possibility of agency with strategic intent, it restricts the range of strategic choices available to those that are compatible with the agent’s social environment.

Zukin & DiMaggio (1990) add to this, by asserting that embeddedness refers to the contextualised nature of economic activity that depends upon cognition, culture, social structures and political institutions. Similarly, Dacin, Ventresca, & Beal (1999) focus their research on the ways in which structural, political, cognitive and cultural embeddedness simultaneously interact in order to shape economies, markets, industries and organisational forms. Uzzi (1997) is more concerned with the structural aspect of embeddedness rather than with its
social construction, defining it as follows: “embeddedness is a logic of exchange that promotes economies of time, integrative agreements, Pareto improvements in allocative efficiency, and complex adaptation” (Uzzi, 1997; p. 35). Other scholars propose that the environment is not only restrictive in nature, but that it also provides opportunities that firms exploit for economic purposes. Dacin et al. (1999) summarise such perspectives of embeddedness as an opportunity in the following way:

First, embeddedness constitutes firm activity, but at the same time is constituted and redefined by the behaviour of strategic actors. Therefore, the relationship between an organization and its embedded context is reciprocal in nature. Second, cultural and cognitive mechanisms serve to define the range of possible organizational actions across a variety of contexts and levels of analysis. Finally, embeddedness serves as an important means of stratification by opening windows of opportunity for some, while erecting barriers for entry, mobility, and action for others (Dacin et al., 1999; p. 335).

Building on this approach, Jack & Anderson (2002) apply an embeddedness framework to studying entrepreneurship through longitudinal ethnographic research; with the following conclusions:

The entrepreneurial process is value gathering, but cannot be treated in purely isolated economic sense. It is sustained by, and anchored in, the social context… Embeddedness realised opportunities which “fitted” the specific needs of the local situation. Embeddedness also created a contextual competitive advantage… Embeddedness involves: understanding the nature of the structure; enacting or re-enacting this structure which forgoes new ties; and maintaining both the link and the structure. As a process, this entailed developing credibility and acquiring knowledge of how business is conducted. In turn this impacted on the entrepreneur’s activities and influenced the way in which their businesses were established and managed (Jack & Anderson, 2002; p. 6).

However, a number of authors assert that the same opportunities created by embeddedness can at some point represent a barrier to further development.
For example, Uzzi (1997) found in an empirical study of entrepreneurial organisations, that whilst embeddedness provided positive effects for the emergence and growth of new companies; there remained a threshold “after which embeddedness can derail economic performance by making firms vulnerable to exogenous shocks or insulating them from information that exists beyond their network” (Uzzi, 1997; p. 35). Similarly, Jack & Anderson (2002) highlight that social embeddedness can also be a disadvantage: “Embeddedness involves relationships, but relationships can be damaging or creative… social context does not always contribute to the venture, social and moral obligations can also constrain” ((Jack & Anderson, 2002; p. 20).

This research suggests that e-entrepreneurs should be conscious of the potential opportunities that the local social environment offers, but at the same time be prepared to overcome the potential limitations it may pose to further growth. This is particularly relevant to e-entrepreneurs in emerging economies, where underdevelopment offers a multitude of opportunities to address local social needs, but which may not scale much beyond any particular environment.

Furthermore, theories of embeddedness suggest that e-entrepreneurs should consider both the social opportunities and demands that the local environment offers. However, it is also important to remember that in a digital environment, the local environment is competing with the demands and opportunities posed by a larger virtual community; with digital embeddedness adding a virtual dimension to the local physical society in which e-entrepreneurs operate, potentially expanding the social environment to a global scale. This supports the argument outlined above, that there is a need to amend traditional
frameworks to accommodate the specificity of DSs. Avgerou & Li (2013) consider this through their two case studies of Internet-enabled entrepreneurs in China as an example of an emerging economy:

Web platform tools and services create conditions of possibility for developing online business by micro-entrepreneurs and for overcoming cultural reluctance of economic exchange with strangers. Our research suggests that economic activity on Web Platforms is embedded in a mix of virtual and community-based relations that are shaped by and alter the behavioural norms of a local culture (Avgerou & Li, 2013; p. 1).

This virtual component of e-entrepreneurship has led some to suggest that digital technologies, the Internet, and wider processes of globalisation contribute to the dis-embeddedness of organisations (Fisher, 2010; Hess, 2004). Whilst the debate on the impact of digital technologies on the embeddedness or dis-embeddedness of firms has been addressed in the context of both economic development (Sandbrook, 2011) and information systems (Sandeep & Ravishankar, 2015), it does not appear to have been much analysed through the use of empirical studies focused on e-entrepreneurship, and much less in the context of emerging economies.

Nonetheless, it seems clear that embeddedness contributes to the agency-environment debate by providing an overriding principle that acts as a hinge in joining the two perspectives together; not only recognising that agency is shaped by the social environment, but that it also allows for the analysis of organisations operating at different levels of embeddedness (i.e. local or virtual). Hence, embeddedness facilitates studies on e-entrepreneurship by enabling the use of a different set of principles, appropriate to evaluating each environment in which DSs operate, whilst also providing a means to explain such interconnectedness.
For whilst embeddedness alone does not fully reconcile the agency and environment perspectives, it does provide a theoretical foundation upon which other unifying conceptual frameworks can build.

2.5.3 Co-evolution

Whilst institutional entrepreneurship sees agency shaping the environment, and embeddedness sees the environment shaping agency, both view agency and environment as a function of the other. Co-evolution provides an alternative to these perspectives, proposing a new framework that views both environment and agency as mutually dependent, with neither completely determining the other. Co-evolution recognises that:

On the one hand, pressures towards similarity and isomorphism (from selection environments and ‘industry regimes’) and, on the other hand, firm-level actions cause divergence and variation. (Geels, 2014; p. 262).

Lewin & Volberda (1999) provide the following definition:

We define co-evolution as the joint outcome of managerial intentionality, environment, and institutional effects. Co-evolution assumes that change may occur in all interacting populations of organizations. Change can be driven by direct interactions and feedback from the rest of the system. In other words, change can be recursive and need not be an outcome of either managerial adaptation or environmental selection but rather the joint outcome of managerial intentionality and environmental effects (Lewin & Volberda, 1999; p. 526).

Lewin & Volberda go on to suggest that co-evolution provides an alternative to frameworks based on either agency or environmental perspectives, and that it “has the potential for integrating micro and macro-level evolution within a unifying framework, incorporating multiple levels of analyses and contingent effects, and leading to new insights, new theories, new empirical methods, and
new understanding.” Lewin & Volberda (1999; p. 520) However, it is worth noting that a co-evolutionary framework does not achieve its objective of providing a more accurate account of the dynamics occurring between organisations and their environment simply by collapsing the constructs proposed by previous theories; instead, as Malerba (2006) asserts:

The challenge for research here is to go to a much finer analysis at both empirical and theoretical levels, and to move from the statement that everything is co-evolving with everything else to the identification of what is co-evolving with what, how intense is this process and whether indeed there is a bi-direction of causality (Malerba, 2006; p. 18).

The work of Lewin & Volberda (1999) identified a number of the properties that co-evolutionary research must meet in order to accomplish its goals. The first of these is multi-levelness/embeddedness, asserting that:

Co-evolutionary effects must occur at multiple levels within firms as well as between firms. […] This approach recognizes that processes of variation, selection and retention operate within the organization and interact with similar processes operating at the population level (Lewin & Volberda, 1999; p. 526).

There must also be evidence of multidirectional causalities, as:

Organizations and their parts do not merely evolve. They co-evolve with each other and with a changing organizational environment… Changes may occur in all interacting populations of organizations, permitting change to be driven by mutual direct interactions and by feedback from the rest of the system. … In such complex systems of relationships, dependent-independent variable distinctions become less meaningful since changes in any one variable may be caused endogenously by changes in others (Lewin & Volberda, 1999; p. 527).

Co-evolution is also nonlinear in nature, and:

As a consequence of indeterminate feedback paths, changes in one variable can produce quite counterintuitive changes in another variable. … That is, co-evolution subsumes nonlinear feedback among interacting
populations, and such nonlinearities can substantially complicate attempts to understand evolutionary change. ... A co-evolutionary approach, however, requires that sets of co-acting organizations and their environments be the object of study, and that changes in all interacting organizations be allowed to result not only from the direct interactions between pairs of organizations, but also by indirect feedback through the rest of the system (Lewin & Volberda, 1999; p. 527).

Positive feedback is also a feature of the co-evolution model, with the authors asserting that:

Organizations systematically influence their environments, and organizational environments fundamentally comprised of other organizations in turn influence organizations. ... In this mutual interaction feedback perspective, the unidirectional view of cause-and-effect relationships gives way to a recursive bidirectional view of mutual causality (Lewin & Volberda, 1999; p. 527).

Finally, there must be clear evidence of path and history dependence:

Adaptation in a co-evolutionary process is path-or-history dependent. ... Variation in adaptations among constituent firms in a population may reflect heterogeneity in the population of firms at earlier points in time ... rather than variation in niches in the environment ... or a set of distinct external conditions (Lewin & Volberda, 1999; p. 527).

Geels (2014) inter alios has responded to the call for the development of a co-evolutionary framework to guide further empirical research. His work agrees that “a new conceptual framework is needed, which accommodates interactions between incumbent firms-in-industries and a broader set of environments” (Geels, 2014; p. 262); developing what he terms as the triple embeddedness framework (TEF), which

Conceptualizes firms-in-industries as embedded in two external (economic and socio-political) environments and in an industry regime which mediates strategic actions towards the external environments. The TEF’s theoretical logic draws on the adaptation-selection debate, which suggests that the co-evolution phenomenon can be approached
from two angles. With regard to (population-level) selection theories, which highlight pressures on industries from external environments, the TEF accommodates insights from evolutionary economics, neo-institutional theory, and economic sociology. With regard to (firm-level) adaptation theories, the TEF accommodates insights from externally-oriented strategy schools (economic positioning strategy, innovation strategy, corporate political strategy, discursive strategy, issue management) and internally-oriented strategy approaches (linked to knowledge/capabilities and cognition/sense-making) (Geels, 2014; p. 261).

By providing a theoretical foundation to accommodate both agency and environmental perspectives in a unified framework, co-evolution enables the integration of the multiple perspectives from the literature on e-entrepreneurship; offering a powerful tool to model the relationships between LADSs and their environment. The following chapter will explore in more detail how the TEF provides the conceptual framework needed to address the questions posed in this research.

2.6 Summary

There is a clear lack of a comprehensive theoretical framework of e-entrepreneurship able to unify the different perspectives exploring this phenomenon, calling for the design of a new framework able to successfully accommodate and respond to the questions posed by this research. Despite this, it is worth noting that the extant literature already makes a number of important contributions to aid the study of DSs and their interactions with their institutional environment. Table 2.9 summarises the findings of this literature review, whilst also highlighting the remaining gaps.
<table>
<thead>
<tr>
<th>Literature</th>
<th>Findings</th>
<th>Gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-Entrepreneurship</td>
<td>DSs share some properties differentiated from offline start-ups.</td>
<td>Empirical studies on e-entrepreneurship in emerging economies are scarce, particularly in regard to Latin America.</td>
</tr>
<tr>
<td></td>
<td>Traditional frameworks used to study offline entrepreneurship are relevant but incomplete.</td>
<td>Existing literature does not address whether frameworks developed in mature economies can properly capture the DSs’ institutional environment in emerging economies.</td>
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<tr>
<td></td>
<td>Existing literature has been focused on either agency or environmental factors.</td>
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<tr>
<td></td>
<td>Most of the literature is in the context of mature economies.</td>
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<tr>
<td>Agency</td>
<td>Agency in entrepreneurship has been studied at an individual and a firm level.</td>
<td>The literature has not addressed whether the strategic choice and LSM frameworks properly explain DSs’ development in emerging economies.</td>
</tr>
<tr>
<td></td>
<td>At an individual level, studies have addressed the personality and skills of e-entrepreneurs.</td>
<td>Agency studies on e-entrepreneurship have either ignored or not sufficiently addressed the important role of environment selection in the development of DSs.</td>
</tr>
<tr>
<td></td>
<td>The strategic choice literature has provided useful constructs to understand agency in DSs.</td>
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<td></td>
<td>The LSM literature provides a useful framework to study DSs’ agency, and has been widely adopted by practitioners.</td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td>The literature on business ecosystems and institutional theory has provided useful constructs to study the impact of the firm’s environment on the development of DSs.</td>
<td>Most of the literature studying the LADSs’ environment has been based on business ecosystems frameworks. There are few institutional-theory-based studies on e-entrepreneurship in the context of emerging economies, and none in Latin America.</td>
</tr>
<tr>
<td></td>
<td>The environment imposes selection pressures that can at least partially explain variations in the development and performance of DSs.</td>
<td>The literature does not address the relationship between Latin American institutions and DSs, or whether these relationships vary</td>
</tr>
</tbody>
</table>
DSs operate in an organisational field that can be studied at different levels (i.e. population, societal, world system) between DSs operating at a local level from those operating at a multinational level. Environment selection studies on e-entrepreneurship have either ignored or not sufficiently addressed the important role of agency in the development of DSs.

| Agency / environment resolution | Agency and environmental perspectives only recognise a limited set of structures and mechanisms necessary to understand e-entrepreneurship. The literature on embeddedness provides a useful framework that acknowledges the environment as both a constraint and an enabler of firm’s agency. The literature on institutional entrepreneurship provides useful constructs to explain how e-entrepreneurs may go beyond the boundaries of the existing institutions by shaping them and creating new ones. Co-evolution provides a comprehensive theoretical framework to reconcile agency and environment perspectives. | Very few studies into embeddedness or institutional entrepreneurship in e-entrepreneurship were found in the context of emerging economies, with none on Latin America. There are no empirical studies focusing on e-entrepreneurship following a co-evolutionary framework or the TEF. The use of the TEF as a co-evolutionary framework could provide a powerful tool to analyse the agency and environment structures and mechanisms affecting the development of DSs in emerging economies. |

Table 2.9 – Summary of findings and gaps in the literature

In summary, the relatively new field of e-entrepreneurship has revealed that while DSs share some common properties with their more traditional counterparts, they also possess a number of important differences, and therefore,
frameworks conceived for the study of traditional organisations can only be used in the study of e-entrepreneurship if expanded to accommodate for such differences. Studies in e-entrepreneurship have found that both agency and environmental elements play a significant role in the emergence and development of DSs. There is also a scarcity of academic research focusing on emerging economies, with the few studies that do exist largely focusing on environmental elements, while those focused on more mature economies concentrate more on agency elements.

Agency perspectives at an individual level have found that there are both functional and cognitive factors specific to e-entrepreneurship influencing the innovation process. At the same time, agency perspectives operating at the firm level have uncovered the need to consider the importance of digital business models as a reflection of strategic intent, along with the need to allow for the modelling of strategic action through BMC and LSM. However, it remains unclear whether the LSM can properly capture all of the elements of agency of DSs in emerging economies, particularly in Latin America.

Research on institutional environment perspectives at the organisational level suggests that DSs should be studied in conjunction with other organisations in the ecosystem, given their impact on the development of DSs. At the societal level, the literature provides powerful tools to enable the modelling of how the environment conditions e-entrepreneurship, and provides enough evidence to support the belief that the environment plays an active role in simultaneously providing opportunities for, and placing constraints upon DSs.
In a way towards resolving the agency versus the environment debate, institutional entrepreneurship offers a mechanism to differentiate entrepreneurial institutional agency from organisational technical agency, revealing that the environment can be shaped by agency. Embeddedness provides the theoretical background necessary to model the different environments in which DSs operate, showing how agency is shaped by the environment. Finally, co-evolution offers a theoretical framework to reconcile and integrate agency and environmental perspectives in the study of e-entrepreneurship, with the co-evolutionary properties of the TEF providing a promising conceptual framework with which to operationalise empirical research on e-entrepreneurship in emerging economies, and ultimately respond to the research questions outlined in Chapter 1.
Chapter 3

Conceptual Framework

3.1 Introduction

This chapter seeks to explain how the Triple Embeddedness Framework (TEF) can be used to successfully address the research questions outlined in Chapter 1. As discussed in the literature review, the TEF offers a new way of analysing firms, employing a co-evolutionary conceptual framework that complements the strengths of institutional theory with those of agency-based theories. The first section of this chapter considers how the environment of DSs can be modelled using the TEF, with the second section focusing on the use of strategic choice as the vehicle to model DSs’ agency to adapt and shape their environment. The final section then reviews the implications of using the TEF for empirical research on e-entrepreneurship in Latin America.

3.2 Modelling the Environment with the Triple Embeddedness Framework

The first research question being investigated in this study concerns the relationship between LADSs and their environment. In addressing this, this section considers how the TEF conceptualises the environment in which firms operate. To facilitate the modelling of the environment, Geels (2014) proposed that firms be viewed as simultaneously embedded in three environments: an industry regime, an economic environment, and a socio-political environment (Figure 3.1). Although the conceptualisation of the environment into three distinct dimensions is a simplification of the complex reality in which firms operate, as will
be explored later, it nevertheless provides a useful tool to facilitate empirical research.

3.2.1 The multi-level nature of embeddedness

The TEF incorporates notions of embeddedness more commonly found in economic sociology. Embeddedness refers to the contextualised nature of economic activity, which depends on cognition, culture, social and political institutions (Zukin & DiMaggio, 1990). Geels (2014) builds upon this work, by distinguishing between endogenous institutions specific to a firm or an industry (in regard to regulations, norms and ideas that structure the actions of both individuals and groups); and exogenous institutions that affect society at large (the broadly accepted norms, values and belief systems that constitute the prevailing principles of society). Such distinction on the type of institutions are
consistent with the two main structures of the environment identified and discussed in Sections 2.4: the organisational field, and the broader society. Therefore, the TEF considers two different kinds of embeddedness: vertical embeddedness (interactions between firms and its industry) and horizontal embeddedness (interactions between firms and the broader society).

Vertical embeddedness focuses upon the relationships between firms and their industry, acknowledging that actors in the same population draw “on social structures (rules, resources, institutions)” (Geels, 2014; p. 267). In the TEF, firms are not simply acting in a vacuum; they are embedded vertically in a social structure defined as an industry regime, which encompasses the endogenous institutions that shape the actions of firms within a population of similar organisations.

Horizontal embeddedness refers to the “interactions between [firms] and social groups in economic and socio-political environments” (Geels, 2014; p. 267). In this definition, firms are viewed as actors situated in a social system comprised of social agents, connected through social interactions. Horizontal embeddedness conceptualises firms not as isolated agents, but instead as being in constant interaction with other actors in their social systems. In the TEF these interactions are conditioned by exogenous institutions and may be of an economic or a socio-political nature; with the former representing the economic environment, and the latter constituting the socio-political environment.

Although Geels (2014) does not provide a comprehensive list of actors embedded in the three environments of the TEF, the TEF could easily
accommodate all of the actors in the organisational field first discussed in Section 2.4, including universities, R&D institutions, human resources departments, formal and informal networks, governments, angel investors, venture capitalists, professional service providers, incubators, accelerators and company builders (Carayannis & von Zedtwitz, 2005; Kantis et al., 2012; Miller & Bound, 2011; Rao, 2013). Whilst these actors were identified using a business ecosystem framework, the TEF can expand this further by acknowledging that a firm’s interactions with other actors must be modelled differently depending on their vertical or horizontal embeddedness. Therefore, the organisational field actors previously identified in the e-entrepreneurship literature could be more accurately modelled in the TEF by mapping them as embedded in either the industry regime, economic or socio-political environments.

Furthermore, Geels (2014) acknowledges Scott (2014)’s proposition that organisations are nested in various institutional levels, focusing on two of these: population and societal. The conceptualisation of nesting is important when attempting to reconcile the TEF with the findings of e-entrepreneurship studies based on business ecosystems frameworks, which propose that DSs operate within local entrepreneurial ecosystems that are not isolated, but are instead part of broader national and multinational ecosystems (Isenberg, 2011). Consequently, it seems that these economic and socio-political environments can be similarly expanded, with additional dimensions added in order to model the interactions of DSs with other actors at higher economic and socio-political levels. The TEF defines firms at an organisational population level as an industry nested within an organisational field that includes the actors in the economic and socio-
political environments. Building on the work of Scott (2014), this can be further expanded in order to recognise that this organisational field is itself nested at societal (national) and world system (multinational) levels, as illustrated in Figure 3.2.

![Figure 3.2. Nested environmental levels](image)

**3.2.2 Industry regime**

The TEF regards the firm as the unit of analysis, and consequently does not model intra-organisational subsystems. Although this may be a limitation in some circumstances, it meets the requirements of this research, which focuses on the DS as the unit of analysis. Geels (2014) conceptualises ‘firms’ as organisational economic agents, which means firms are the “concrete agents doing the acting” (Geels, 2014; p. 262) in an economic transaction. However, the TEF also recognises that firms are not isolated individual actors, and instead form
part of a population, conceptualised as an industry. Geels (2014) defines ‘industry’ as

A population of firms in a sector, which produce similar goods and services... one can refer to an industry as a collective entity, because firms in a population share certain characteristics and face similar pressures from their environment (Geels, 2014; p. 262), leading Geels (2014) to refer to firms as ‘firms-in-an-industry’.

The TEF also conceptualises the industry regime as the vertical embeddedness of firms composed by

The endogenous institutions [that] influence firms-in-industries in a different way, acting as structures that mediate actions and perceptions towards the [economic and socio-political] environments (Geels, 2014; p. 266).

As discussed in Chapter 2, a number of previous studies have discovered that DSs share some characteristics, and also face certain common pressures (Cervantes, 2013; Feld, 2012; Isenberg, 2011; Kantis et al., 2012); and therefore, within the TEF, it is possible to conceptualise each DS as a firm, and the organisational population of DSs as their industry.

However, it is important to remember that the analysis of DSs as an industry is potentially very complex, as while some DSs have created a new, purely digital line of business, such as the companies behind Facebook and Twitter, who established the social media industry, other DSs operate in a pre-existing industry, with their line of business already defined by other more traditional offline firms. For example, an online insurance broker is a DS that can be associated to both a population of digital firms, and an established offline
insurance industry. In recognition of the additional complexity often inherent to DSs, this research will conceptualise DSs as firms-in-hybrid-industries (Figure 3.3) – comprising a digital industry that aggregates the population of the DSs and other digital firms; and a product-sector industry that aggregates a DS with other offline organisations operating in the same line of business (producing similar/competing products or services). The issue of firms being subject to a hybrid of institutional logics has previously been discussed in reference to organisations that are simultaneously subject to both complementary and competing institutional pressures (Kraatz & Block, 2008; Pache & Santos, 2013). The study by Avgerou & Li (2013) supports this proposition, finding that DSs are “embedded in a mix of virtual and community-based relations that are shaped by and alter the behavioural norms of a local culture” (Avgerou & Li, 2013; p. 1).

The implications for DSs of operating in such a hybrid industry regime are twofold, as working to comply with dual and possibly conflicting legitimacy requirements of each industry regime may be a source of tension in the resource utilisation that can potentially slow down the growth of a DS; whilst the intersection of these institutions may also provide an opportunity to innovate and differentiate with others in each of these regimes.

![Figure 3.3 – DSs as firms-in-hybrid-industries](image-url)
Geels (2014) adds to the definition of firms-in-industries by distinguishing three types of firms according to their position in the industry: “core firms (which have the power to discipline other firms and shape regime rules to suit their interests), firms ‘in the middle’, and peripheral firms (fringe actors or new entrants for whom it is relatively easier to deviate from regime rules)” (Geels, 2014; p. 266). This notion of position refers to the relationship between the firm and the institutions of the industry regime. Core firms have the power to create and shape institutions, but are usually bound by them. Peripheral firms are less bound by institutional forces but have less power to influence the institutions. Core and periphery refer to the power that firms can exercise in their relationship with other agents (Henderson, Dicken, Hess, Coe, & Yeung, 2002). Therefore, in the TEF DSs can be conceptualised as peripheral firms, which are new entrants that leverage variation mechanisms in contrast with core and middle firms, which are subject to isomorphic lock-in mechanisms. These concepts of core and peripheral firms could apply to both DSs in relation to large mature firms in the product-sector industry, or to the operation of DSs in relation to other larger and successful digital firms in the digital industry.

The industry regime also includes the three institutional pillars devised by Scott (2014), with the addition of a functional-cognitive element. In his work, Geels (2014) includes this fourth element in order to “accommodate the evolutionary economists’ emphasis on technological knowledge… and capabilities, which enable and constrain what firms-in-industries can do” (Geels, 2014; p. 267). These four pillars are discussed in more detail below.
On the functional-cognitive pillar, Geels proposes that “technical knowledge and cognitive routines form crucial resources for operational processes. They enable and constrain functional performance... At the industry level, shared knowledge is referred to as a technological regime” (Geels, 2014; p. 267). This element goes some way to incorporate the individual level perspective of e-entrepreneurship agency discussed in Chapter 2, recognising that e-entrepreneurs operating in the same industry share ways of making sense of the world, use technology, and follow innovation processes (Hindle & Yencken, 2004).

On the cultural-cognitive pillar, Geels work also suggests that

Firms-in-an-industry share cultural-cognitive categories and frames, which some scholars refer to as ‘industry recipe’ or ‘industry mind-set’. Cultural-cognitive institutions constitute the nature of reality, shape interpretations of (pressures and opportunities in) [economic and socio-political] environments and influence strategic choices and decisions” (Geels, 2014; p. 267).

This is illustrated in section 2.3.2, which discussed how accelerators use such institutions to offer methodical development programmes that follow commonly accepted templates, such as LSM. DSs that have successfully completed an acceleration programme gain legitimacy by demonstrating that they accept these defining principles as the preferred way to manage DSs (P. Miller & Bound, 2011).

On the normative pillar, Geels suggests that it is comprised of

Industry identity, values and mission. Normative institutions provide behavioural templates that specify ‘the way we do things in this industry’ and articulate what industry actors consider to be appropriate behaviours. These institutions include shared identity, which is what firms-in-an-industry believe to be its central, enduring, and distinctive character (Geels, 2014; p. 267).
For example, Cervantes (2013) describes how a grass-roots community of Mexican e-entrepreneurs organised themselves to promote a culture of entrepreneurship that included prescriptive elements of behaviour towards other entrepreneurs. In this case, the Mexican e-entrepreneurs in question shared a set of values that included showing altruism towards fellow entrepreneurs. In this industry regime, it was expected that e-entrepreneurs would help each other by sharing their experience, their personal connections with potential investors and support organisations, and by participating in events to promote the development of the wider entrepreneurial ecosystem overall. The study found that e-entrepreneurs failing to adhere to these expected behaviours were left out of the ‘mainstream’.

On the formal-regulative pillar, Geels states that

Regulations and policies (taxes, subsidies, intellectual property laws, tariffs, R&D programmes) shape industries by influencing markets, industrial production decisions, and innovation processes... partially imposed by policymakers and governmental agencies... partially internally enacted by industry associations and professional organisations which articulate and implement guidelines or standards for industry members (Geels, 2014; p. 267).

In addition, Kantis & Federico (2012) provide a thorough analysis of how regulations and policies oriented to developing the entrepreneurial ecosystem have played a significant role in improving the conditions for DSs operating in a number of Latin American countries.

Geels (2014) propounds that these elements of the industry regime:

Cluster together into semi-coherent configurations that orient firms-in-industries and provide directionality... large incumbent firms tend to be committed to industry regime elements, which are stabilized by various
lock-in mechanisms... Because of these lock-in mechanisms, firms-in-industries tend to evolve incrementally within the parameters of the existing industry regime. (Geels, 2014; p. 267).

These lock-in mechanisms are categorised into four types: technical knowledge and competencies that “represent ‘cognitive capital’ that actors do not want to disrupt or cannibalize” (Geels, 2014; p. 267); shared mind-sets and cognitive frames that “can contribute to cognitive inertia, blinding actors to developments outside their focus” (Geels, 2014; p. 267); regulatory institutions that “can provide incentives that facilitate actions in certain directions rather than in other directions” (Geels, 2014; p. 267); and finally, industry mission and identity that “are difficult to change because they refer to taken-for-granted beliefs that actors have about themselves and their role in society” (Geels, 2014; p. 267).

However, the TEF acknowledges that whilst lock-in mechanisms drive firms-in-an-industry towards isomorphism, these firms also have the capacity to differentiate. When analysing DSs in particular, it is clear that deviation from industry institutions is easier because they are less constrained by them, and such variation allows new entrants to gain a place in the industry. Thus, the same four mechanisms that lock-in some firms can become a source of variety for others.

Although firms-in-an-industry share technological regimes, they also differ in terms of specific competencies, which form the basis for innovation-based-competition. ...While firms-in-an-industry share certain cognitive frames and categories, this does not preclude cognitive variety between firms on specific issues, [and while these] firms-in-an-industry share a general mission, they also use branding and [public relations] to compete in terms of reputation [with] Firms-in-an-industry, [potentially] deviating in the degree of compliance to similar regulatory pressure (Geels, 2014; p. 268).
The implication of such lock-in and variation mechanisms for DSs may be either positive or negative. They may be used to a DS’s advantage when competing with other firms in the product-sector industry regime, where their typology as peripheral firms means that they can be more flexible in implementing the sources of variation than the core firms in their product-sector industry regime. However, a lack of adherence to the lock-in mechanisms may make it difficult for DSs to gain the legitimacy necessary to gain access to resources (i.e. financial and human resources), and to establish business relationships. Therefore, DSs may need to look for this legitimacy in the digital industry.

This section has considered vertical embeddedness of firms-in-industries, conceptualised through an industry regime. The TEF constructs reviewed thus far provide tools to model the relationships between DSs and other organisations in their population, employing a classification of firms as core, in-the-middle, and peripheral; along with four institutional pillars; lock-in mechanisms; and sources of variety. Furthermore, it has been discussed how the TEF may be expanded in order to conceptualise DSs as firms-in-hybrid-industries. Identifying the lock-in mechanisms DSs face can assist in modelling the selection pressures that DSs encounter to conform to their hybrid industry regimes, as well as the DSs’ opportunity to adapt and differentiate from other organisations in their product-sector industry.

### 3.2.3 Economic environment

The purpose of this section is to review the constructs found within the first aspect of the horizontal embeddedness of firms – the economic environment, wherein DSs establish relationships with other organisations in their field with the
discrete purpose of creating economic value. The economic environment in this context refers primarily to the material aspects of the environment in which firms operate (e.g. markets, customers, investors, suppliers, infrastructure and human resources). Drawing upon evolutionary economics, the TEF conceptualises the economic markets as the “primary environments which exert selection pressures on firms-in-industries… [competing] for scarce resources” (Geels, 2014; p. 263). The economic environment may include organisations external to the DSs’ industry regime, but with whom they do business, including customers, suppliers, investors, incubators and accelerators. In the economic environment, firms relate to other organisations in their organisational field through market mechanisms, in order to exchange goods or services, and with capital. Firms will experience selection pressures arising from this environment, based on their competitiveness, efficiency or financial performance. Therefore, it is clear that firms look to achieve economic fitness by managing their own resources and capabilities in a way that allows them to compete for scarce resources. Firms adapt to these selection pressures through innovation:

Firms offering products with a better fit with the selection environment receive more resources, which enable them to reproduce their routines and capabilities. Firms with lower fitness receive fewer resources and may (ultimately) die... Innovation is seen to derive from search and learning activities (operationalized as R&D) in a technological knowledge space... The search process result in variations (such as product innovations) to which the market provides ‘performance feedback’, selecting variations with the highest fit (Geels, 2014; p. 263).

Therefore, the DSs’ innovation process can be understood as a response to the selection pressures inherent to the economic environment, that drive heterogeneity through the search for opportunities offering profit maximisation.
Furthermore, the relationships between DSs and other economic agents are mediated by broader environmental factors that will affect their decision-making processes, including the exchange rate, interest rates, inflation, and macroeconomic growth projections; and therefore, must be considered as part of the modelling of the economic environment. Periods of economic instability in developing economies can affect firms’ ability to get funding and acquire supplies from abroad (Reyes & Sawyer, 2015). This macroeconomic environment is clearly defined in the TEF, and so it must be assumed to include the aggregate of the local, national or multinational economic levels. However, depending on the level at which a firm operates, each of these environmental levels may impose a different set of economic pressures, to which firms must respond. For a DS operating solely in the local market, the multinational environment may be of little concern; while for a DS operating within a regional market in Latin America, purely local pressures may be of less relevance. Therefore, in order to properly address the research questions, it is necessary to expand the TEF, devising a multi-level model that differentiates between the different macroeconomic conditions in which DSs operate.

Although the actions of DSs in the economic environment are largely driven by a self-interested quest for profit maximisation, the TEF also incorporates the notion arising from the discipline of economic sociology that “the economy is not a separate domain with its own logics, but [is] instead enmeshed with social, political and cultural dynamics” (Geels, 2014; p. 265).
3.2.4 Socio-political environment

This section seeks to explore the constructs found in the TEF that accommodate the proposition emerging from the economic sociology paradigm that firms do not execute economic transactions in isolation, but instead that they are embedded in a broader socio-political environment. Scott, Ruef, Mendel, & Caronna (2000; p. 237) propose that “organisations require more than just material resources and technical information if they are to survive and thrive in their social environments. They also need social acceptability and credibility” (Scott et al. 2000; p. 237). While the selection criterion in the economic environment is economic efficiency, the socio-political environment imposes pressures on firms to achieve social fitness, through the selection criterion of legitimacy. The TEF conceptualises the socio-political environment as

‘General’ or ‘exogenous’ institutions [that] exert selection pressures on firms-in-industries through the activities of actors in a socio-political environment (e.g. social movements, wider public, media, policymakers). The underlying idea is that a mismatch between ‘general’ institutions (broadly accepted norms, values, belief systems) and industry-specific institutions does not by itself generate tension or pressure on firms-in-industries, but through the activities (complaints, demands, criticisms) of socio-political actors (Geels, 2014; p. 266).

This supports the notion that a firm earns legitimacy when the relevant socio-political actors see a firm’s actions as desirable or appropriate. Horizontal social embeddedness can be further expanded to take into account cognitive and cultural elements. Geels (2014) proposes that cultural embeddedness is a broader component of cognitive embeddedness, which refers to the categories, maps and schemas that are social and shared with others:
On a macro-level culture constitutes capitalist ‘market societies’ by providing ideas and repertoires that legitimate policies and actions… On the level of specific industries, cultural discourses can provide (or undermine) legitimacy, which influences private investment and government support (Geels, 2014; p. 265).

A number of cognitive and cultural elements have been found to be essential for the study of e-entrepreneurship. For example, Neck et al. (2004) found that all of the e-entrepreneurs interviewed in their study agreed that “the culture may be the single most important element for [an entrepreneurial] system to develop and may be the single most difficult element to replicate and to manage” (Neck et al., 2004; p. 204).

Horizontal political embeddedness refers to the notion that “economies and markets are underpinned by government regulations and institutions” (Geels, 2014; p. 265). The measures enacted by the political actors reflect the relationship between the state and the economy in general, and between the government and the firms in particular. A number of actors identified in the business ecosystems literature could easily be categorised as being either social or political actors, and as such could be modelled in the TEF, including the media, the government, non-governmental agencies and social movements (Cervantes & Nardi, 2012; Kantis et al., 2012; Neck et al., 2004). Neck et al. (2004) also discussed the role of the government in the development of e-entrepreneurship:

The government can play many other roles, in either fostering or hampering entrepreneurship in their regions through tax rates and incentives, in providing other forms of financial support, and in eliminating the bureaucratic “red tape” often associated with applying for permits and licenses (Neck et al., 2004; p. 202).
Therefore, by conceptualising a socio-political environment, the TEF provides a valuable tool with which to study how the environment can exert pressure on firms for social and political fitness, though the mechanisms of cultural-cognitive and formal-regulative institutions.

### 3.2.5 Proposed adaptations to the TEF for the study of DSs

In the previous sections it was discussed how the TEF could be used to model the relationships between DSs and their environment, and some adaptations were proposed to consider their particular properties. Figure 3.4 shows a modified representation of the TEF that incorporates these changes. The adapted model incorporates the notion that DSs operate not in one industry regime, but in a hybrid one, as discussed above. Furthermore, the adapted model attempts to clarify the nature of embeddedness that DSs have in each of their environments. While the DSs are embedded in a hybrid industry regime, the industry regime is itself also embedded in both an economic environment and a socio-political environment. This means that the relationships between DSs and the economic environment are not outside but inside the socio-political environment, which is congruent with the theoretical framework of embeddedness. Similarly, the relationships between firms within the industry regime occur within the economic and socio-political environments. Therefore, the model also attempts to provide a graphic representation of the influence of the institutional pillars proposed by Geels (2014). The dashed boxes represent the institutions endogenous to the hybrid industry regime, while the solid boxes represent the exogenous institutions that run across the environments. The
former operate at an industry lower level while the latter operate at a higher societal level.

Figure 3.4 – TEF modified for the study of DSs, adapted from Geels (2014)

The model can also be expanded, as illustrated in Figure 3.5, to incorporate the notion of multi-levelness that is inherited from the co-evolutionary nature of the TEF and its foundation in institutional theory.
3.3 Modelling DSs’ Agency in the TEF

So far, this chapter has considered the tools that the TEF provides to model the uni-directional influence of the environment over DSs. However, the modelling of the relationships between DSs and their environment is incomplete without considering how DSs adapt to and shape their environment.

The second of the research questions being considered in this study is particularly concerned with the agency of DSs, and explores how DSs respond to the challenges and opportunities inherent to their environment. Consequently,
this section examines the TEF’s conceptualisation of bi-directionality in the relationship between firms and their industry regime, their economic environment and their socio-political environment, by incorporating elements of:

Both externally-oriented strategy approaches (economic positioning, corporate political strategy, discursive strategy, and issue management), which address how firms aim to shape environments, and internally-oriented strategy schools (knowledge/skills/capabilities and cognition/sense making), which address how firms adapt to external pressures by changing their capabilities, beliefs and identities (Geels, 2014; p. 262).

Environmental pressures arise from changes in environmental elements that risk weakening a firm’s institutional fitness. If this fitness gap increases, and a firm’s legitimacy decreases, the firm then begins to experience reduced performance, to the point of risking its very survival. Geels (2014) develops the critical evaluation proposed by the neo-institutional perspective that firms “not only adapt to external pressures but also strategically attempt to shape their environment” (Geels, 2014; p. 268), proposing that firms may respond to the pressures posed by the environment with both externally-oriented and internally-oriented strategies. Externally-oriented strategies are designed to create the most advantageous environment for the firm, while internally-oriented strategies focus on developing the firm’s unique capabilities, resources and interpretive responses to the world in which they operate, in order to differentiate themselves from other firms in the industry.

The external approaches portray adaptation as manoeuvring across space to find the best position or as active attempts to shape and mould the [environment]. Internally-oriented approaches… see adaptation as a strategic process of changing the firm’s nature (e.g. routines, capabilities, belief systems, mission) to improve the fit with the environment (Geels, 2014; p. 268).
Geels (2014) draws on Child (1997)’s strategic-choice-loop, discussed in Chapter 2, to explain the firm’s agency process of evaluating the environment, making sense of it, deciding on a course of action, implementing an action, and learning from the results. However, Geels (2014) then expands the conceptualisation of the strategic-choice-loop, by proposing that firms do not follow a single loop, but instead operate various loops towards each of the three environmental elements of industry regime, economic environment and socio-political environment; and therefore the term ‘action’ refers to the specific strategies that draw information from each of the environmental elements and “weave them into comprehensive stories” (Geels, 2014; p. 272). The process of ‘learning’ within the loop incorporates feedback gained from different strategies towards all of the environments. Furthermore, Geels explains how the concepts of ‘choice’ and ‘evaluation’ draw on “technical knowledge and capabilities [to] shape perceptions of what is strategically possible” (Geels, 2014; p. 272). For example, consistent with what was discussed on section 2.3.1 on individual level entrepreneurship, Morris et al. (2012) propose that an entrepreneur’s cognitive and affective characteristics, such as technical knowledge, experience and social skills are closely linked to their decision making processes, including the decision to start a new venture. Similarly, “Strategic thinking and evaluation draws on industry mind-sets and cultural-cognitive institutions, which provide the categories, abstractions and typifications actors use in interpretation” (Geels, 2014; p. 272). This is also seen at a firm level as seen in Section 2.3.2, and illustrated by Doganova & Eyquem-Renault (2009), who found that investors use similar templates to evaluate which DSs to invest in; and by Blank (2013), who
revealed that a significant number of e-entrepreneurs have been adopting LSM as a common lens through which to build and adapt their strategy, as reflected in their business models.

### 3.3.1 Internally-oriented strategies

The TEF describes the actions that firms take to enable internally-oriented strategies to adapt to environmental pressures, as part of a strategic re-orientation process. This process progressively follows each of the steps of the strategic-choice-loop, supported by behavioural and cognitive learning theoretical perspectives:

From the behavioural learning perspective, it takes the importance of increasing economic pressures (e.g. changing markets, new entrants, supply pressures), political pressures (e.g. changing cultural ideologies and discourses), and normative pressures (e.g. changing moral expectations or issue-related activist pressure). These pressures weaken performance in a broad sense, i.e. not only economic-financial performance... but also social fitness and legitimacy... From the sense-making [cognitive] perspective [it] accommodates the importance of interpreting signals from environments and the role of beliefs, mental maps, and strategic visions in guiding search processes (Geels, 2014; p. 271).

The core concept underlying the strategic reorientation process is that firms have a ‘strategic direction inertia’, which only permits them to gradually makes sense of environmental changes, as actors “gradually question more foundational regime elements in response to external pressures and performance problems” (Geels, 2014; p. 271).

Geels (2014) highlighted two points that are specifically relevant to DSs within the strategic reorientation process. While core firms begin to make sense of environmental pressures and start developing incremental technical
innovations to respond to them, peripheral firms (such as DSs) may quickly seize the opportunities presented by the changes in the environment to launch “more radical technical solutions to solve (societal) problems” (Geels, 2014; p. 271). Deeds et al. (2000) confirm that start-ups have an advantage when developing new products, as they are not bound by some of the more traditional procedural restrictions affecting core firms. Alternatively, core firms may at some point feel the need to adapt to changes in the environment by engaging in more radical transformations, through the exploration of new technologies; and at this point, they “may enter into collaborations with peripheral firms or new entrants if these have developed relevant technical knowledge” (Geels, 2014; p. 271). In their study, Etzkowitz, Steiber, & Alänge (2013) explain how some multinational corporations (Intel, Siemens and Symantec) have incorporated the acquisition of innovation into their *modus operandi* by welcoming start-ups into their ‘gravitational field’. For this reason, some start-ups based in Silicon Valley (USA) have attuned themselves to be more attractive to such corporations, with the hope of being acquired.

The TEF conceptualisation of the strategic reorientation process assumes that a firm already holds a position in the market from which it can evaluate changes in the environment that exert pressure on its performance, which triggers adaptation through internally-oriented strategies. However, DSs are new entrants to the market, who are still in the process of creating a position in the marketplace. Nonetheless, this research proposes that the strategic-choice-loop considered in the TEF can also accommodate the unique position of digital start-ups. As discussed in Chapter 2, the LSM has been used to model the strategic definition
of DSs from the preliminary stage of its conception to the point of having a scalable business model. Figure 3.6 illustrates that the strategic-choice-loop and the BML cycle in LSM share common elements, with both drawing upon similar behavioural and cognitive perspectives. Therefore, accommodating elements of the BML into the strategic reorientation process does not compromise the theoretical foundations of the TEF, although there remain differences between the two. One of these differences is that the BML starts with an idea and a building phase, whilst the strategic-choice-loop commences with scanning for environmental pressures and evaluating their potential effect on a firm’s performance. Therefore, for the strategic-choice-loop to accommodate the case of DSs, it should recognise that the first iteration of the loop starts by DSs choosing to act upon an idea that drives them to design a business model and to build the first version of their product. Another difference is the scope of the learning process; while the scope of the LSM is primarily product features and business model hypothesis, the strategic-choice-loop scope is the firm’s fitness with the environment. Therefore, as the business model expresses a subset of the relationships between the DSs and their environment, the former can be said to be contained in the latter. However, despite such differences, both models consider an evaluation-action-learning loop where the stages can be mapped to each other, as shown in Table 3.1. Since both the BML and the strategic-choice-loop models share certain features, it is suggested that the TEF can accommodate the theoretical modelling of the LSM-based practice of DSs’ strategic definition.
Figure 3.6 – The BML cycle adapted from Ries (2011) vs. the strategic-choice-loop adapted from Child (1997)

<table>
<thead>
<tr>
<th>BML Phase</th>
<th>Strategic-choice-loop Phase</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Build</td>
<td>Choice, Action</td>
<td>DSs decide to design a business model and a first version of the product in the first iteration as a result of an idea. In subsequent iterations the product and business model are modified as a result of the learning process.</td>
</tr>
<tr>
<td>Measure</td>
<td>Outcome from action, Information from the environment (industry regime, economic and socio-political)</td>
<td>Product acceptance and business model hypothesis are tested and feedback information is collected. Measure predefined variables to validate customer adoption of product features.</td>
</tr>
<tr>
<td>Learn:</td>
<td>Evaluation, Learn</td>
<td>The feedback information is used to evaluate whether the product features had the expected results in customer adoption and to validate the business model hypothesis. Possible alternatives for improvement are identified.</td>
</tr>
</tbody>
</table>

Table 3.1 – Mapping the strategic-choice-loop and the BML cycle
As outlined in Section 2.3.2, DSs are commonly adopting the BMC as part of LSM. All of the nine building blocks of the BMC are related to the DSs’ internal resources and capabilities as they relate to customers and partners (i.e. suppliers and sales channels); and therefore, the BMC directs DSs towards internally-oriented strategies, largely to improve the fit with the economic environment (Berman, 2012; Blank & Dorf, 2012; Sako, 2012; Weill & Woerner, 2013; Wirtz et al., 2010). However, as will be discussed in the next section, sometimes DSs may also need to look for strategies that can influence the environment external to the firm.

3.3.2 Externally-oriented strategies

The TEF identifies two types of externally-oriented strategic responses. When a firm finds itself at a disadvantage due to its relative position in the environment, it may choose either to select a different environment or to shape its environment in order to gain a more advantageous position relative to other firms in the industry.

The first externally-oriented strategy mentioned in the TEF is the strategic selection of the firm’s environment, allowing the firm to see “the environment as a ‘choice landscape’… [or] as manoeuvring across space to find the best position” (Geels, 2014; p. 268). Whilst established firms are embedded in an environment, some firms can choose, to a certain extent, the environment in which they want to be established and the product-sector industry that they wish to enter. After starting operations, firms can also exercise strategic choice in the selection of the environment in which they wish to expand (Pezderka & Sinkovics, 2011; Pezderka et al., 2012).
Other externally-oriented strategies are directed towards shaping the environment and may be directed towards the hybrid-industry regime, the economic environment, or the socio-political environment.

In the TEF, strategies towards the economic environment are described in terms of economic positioning based on cost leadership or product differentiation (Porter, 1981); linked to different technological strategies, to target the development of improved products or to undertake tasks better, faster or more efficiently than other firms in the industry, in order to carve out a new market niche.

Strategies towards the socio-political environment are described in the TEF as being focused on influencing policymakers through information strategies, whether building expertise about a particular topic, or contesting accepted notions about an issue. These strategies may include financial incentives designed to influence policymakers, or the application of organised pressure, by mobilising both resources and affiliated organisations: “When firms-in-an industry face a common threat, political strategy often takes the form of collective action” (Geels, 2014; p. 269), including the creation of industry associations that may speak on behalf of the sector. Measures may also include direct lobbying strategies, using hired advocates or by gaining direct access to policymakers, governors or presidents. Firms may also apply confrontational strategies, opposing regulation by means of litigation. All these strategies aim to shape the public debate on specific issues, by mobilising cultural entrepreneurship.

The goal of cultural strategies is to project particular industry interests as the general interest, and to shape ideas and discourses
accordingly… civil society and public debates are battlegrounds of ideas, and… dominant ideas and ideologies shape the direction of socio-economic macro-developments… Discursive strategies shape not only what is being discussed, but also how issues are being discussed (Geels, 2014; p. 269).

These discursive strategies may include denying or downplaying a problem associated with a firm’s product or operations, creating doubt about potential problems, risks or uncertainties; advancing certain definitions that favour a firm’s interest, improving a firm’s own credibility or attacking the credibility of opponents; arguing towards the efficiency or inefficiency of certain solutions to favour or delay regulation; using technology to confer legitimacy or to delay regulation or developing metaphors to create positive meanings and legitimacy for technologies.

Socio-political actions are designed to respond to the normative pressures arising from civil society, to show that firms are ‘doing the right thing’. Such strategies may be proactively designed to build goodwill, or to minimise risks; as well as to respond to issues related to a firm’s performance, which may include environmental issues, ethical issues, health issues or labour issues.

It is interesting to note that the TEF is silent about specific strategies designed to address issues within the industry environment. However, the concept of institutional entrepreneurship, first discussed in Chapter 2, can be applied as an externally-oriented strategy towards the industrial regime, in which firms may influence industry related norms, regulations and cognitive frameworks in order to favour the firm’s position.
A number of the elements drawn from digital business models could also
be applied to the definition of externally-oriented strategies, designed to shape
the economic environment (Berman, 2012; Blank & Dorf, 2012; Sako, 2012; Weill
& Woerner, 2013; Wirtz et al., 2010). However, to date, such an analysis has
failed to take account of the comprehensive set of externally-oriented strategies
that DSs could apply towards the industry regime, the economic or socio-political
environment. Consequently, this research will consider whether DSs employ
externally-oriented strategies towards these environments, and if so, to what
extent.

3.4 Considerations for TEF-Based Empirical Research on DSs

There are several implications of the TEF’s co-evolutionary properties for
empirical research on DSs. Firstly, it is important to recognise that the primary
aim of a co-evolutionary framework in empirical organisational research is to
identify a set of causal mechanisms that generate a simultaneous evolution of
organisations with their environment; and therefore, the TEF should be
operationalised in order to identify the evidence of how firms cause the
environment to change, whilst also illustrating how the environment can act to
constrain the strategic alternatives available to them. Given that the digital
industry for LADSs is still developing, the instances in which the DSs actively
participate in shaping their digital industry regime could arguably be more easily
identifiable. Given the nonlinear property of the relationships between the DSs
and their environments, these causal mechanisms are more easily modelled
qualitatively than quantitatively.
By employing empirical research methods, the elements identified in the business ecosystems literature as being part of the organisational field should be mapped to the different TEF environments. For example, the relationship that actors in the economic environment, such as investors, have on DSs could be modelled in terms of whether it facilitates the funding of new ventures, or instead hinders the allocation of resources to high-risk projects. The relationship that DSs have with actors in both the industry regime and socio-political institutions should also be considered, in order to assess their impact on the legitimacy and institutional fitness of DSs. As an example, the relationship between the media and DSs can be assessed in terms of whether it promotes the social fitness of DSs by improving the desirability of being a self-employed e-entrepreneur (Lee, 2014); or whether it constrains the social fitness of DSs, by portraying them as risky alternatives to steady employment (Rios, 2014).

Furthermore, DSs should be modelled as firms-in-hybrid-industries, as doing so allows for the identification of the properties, pressures and opportunities commonly shared by DSs in the digital industry, and enables a detailed appraisal of the relationship between DSs and other firms in their product-sector industry. Similarly, in order to properly identify the relationships of DSs with their environment, the TEF should be expanded to accurately model the different levels of geographical reach, enabling a comparison of DSs operating at a multinational level, and those operating at a national or local level.

In addition, empirical research should aim to identify evidence of the lock-in and variation mechanisms employed by individual DSs in order to operate successfully in their environments. This in turn could provide new evidence on
the institutional isomorphic pressures affecting DSs, and the innovation processes DSs adopt in response.

Finally, in order to operationalise empirical research into the agency of DSs, it is proposed to conceptualise LSM as the potential mechanism through which internally-oriented strategies can be defined.

3.5 Summary

This chapter has presented in detail the different constructs of the TEF, including its conceptualisation of the bi-directional relationships between firms and their environment. It has sought to explain how the TEF can act as a powerful tool in addressing each of the research questions outlined in Chapter 1. It has also discussed how the TEF could be expanded and enhanced to accommodate the particular properties of DSs, by adding a number of elements found in existing e-entrepreneurship literature; before finally identifying a number of guidelines that should be followed in this study in order to facilitate the operationalisation of the TEF for empirical research on e-entrepreneurship.
Chapter 4
Research Methodology

4.1 Introduction

This chapter outlines the research methodology employed in this study, which adopts a critical realist philosophical foundation for its qualitative and exploratory research, applying deductive and inductive reasoning to the data gathered from a range of semi-structured interviews and direct observations.

4.2 Timeline

Figure 4.1 presents a visual representation of the research timeline and the three parallel activities: data collection, data analysis and research deliverables including documents, conferences and publications.

The research commenced with a literature review that identified gaps in the literature to be addressed by the research questions, and which justified the use of the TEF as an underlying theoretical framework for the study. Drawing upon the results of the literature review, a conference paper was presented at the Entrepreneurship in BRICS 2013 conference, organised by the International Consortium for Innovation and Entrepreneurship Research (ICIER). The proceedings were included in a book chapter published in 2015 (Quinones et al., 2015).

The TEF provided the foundation needed to guide an empirical pilot study that included ten interviews and one direct observation. The data collected served as an input for the first analytical phase, following a TEF-based template analysis;
and the results were used to produce the Pilot Study Report and the Research Proposal. The findings from the Pilot Study informed the subsequent phases of data collection and analysis that are described in more detail in Sections 4.5 and 4.6 (below). The results of this second analytical phase were presented at the International Federation for Information Processing (IFIP) 9.4 Latin American Workshop in 2014. Advances on the findings from the second and third phases were also presented at the 2014, 2015 and 2016 Manchester Business School DBA Conferences. The findings outlined in Chapter 5 were presented with a paper at the UK Academy for Information Systems (UKAIS) 2017 Conference, and was distinguished with the “Neil Doherty Best Paper Award”.

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**Figure 4.1 – Research timeline**
4.3 Philosophical Foundation of the Research

As already stated, this research follows a critical realist philosophical foundation. Critical realism (CR) was developed as an alternative to the dominant research philosophies of positivism and interpretivism (Bhaskar, 1998), in an effort to respond to the question whether social phenomena, such as e-entrepreneurship, can be subject to scientific study in the same way as naturally occurring phenomena. While positivism has been “largely concerned with the testing, confirmation and falsification, and predictive ability of generalizable theories about an objective, readily apprehended reality” (Wynn & Williams, 2012; p. 788); interpretivism has largely been focused on “understanding the subjective meanings that participants assign to a given phenomenon within a specific, unique context” (Wynn & Williams, 2012; p. 789). In general, interpretivists deny the existence of an objective reality and propose that instead, knowledge is only gained through social construction; however, over time, variations in ontological and epistemological positions have resulted in different forms of interpretivism (i.e. hermeneutics, postmodernism and deconstructionism) (Klein & Myers, 1999). In contrast to positivism and interpretivism, CR assumes that there is an independent objective reality, but that the ability to understand it is limited, or fallible; and therefore, CR proposes that scientific endeavour should focus on understanding the components of reality and the interactions among them not directly, but through events that are empirically observable as a consequence of such interactions (Bhaskar, 1998).
4.3.1 Ontology

CR assumes an objective reality, with certain properties and components that provide an ontological foundation for this TEF-based research. Table 4.1 provides a summary of the key assumptions of CR ontology, as presented by Wynn & Williams (2012), that are considered most relevant for the purposes of this study.

<table>
<thead>
<tr>
<th>Assumption of CR Ontology</th>
<th>Implications for TEF-Based Research</th>
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<tbody>
<tr>
<td><strong>Stratified Reality</strong></td>
<td>The TEF conceptualises firms as embedded in three environments (industry regime, economic, socio-political) that have causal powers of selection. These environments can be understood as structures that are subject of scientific inquiry. However, they may not be directly accessible through empirical research. Therefore, the research should aim to study the events resulting from the enactment of the environment selection causal power on firms. Some of the selection pressures may result in directly observable events, or may be uncovered through possible explanations that 'should' exist to explain such events.</td>
</tr>
<tr>
<td><strong>Entities</strong></td>
<td>DSs and other actors in the organisational field (i.e. investors, government, and industry associations) can be considered intransient entities independent of our knowledge; however, the constructs of the TEF are transitive entities that this research aims to improve by making them a more accurate representation of the real objects subject to this study.</td>
</tr>
<tr>
<td><strong>Structures</strong></td>
<td>The ontological assumption of a stratified reality composed of nested structures provides a philosophical foundation supporting the multi-level property of the organisational field, and of the environment and its institutions (i.e. multinational, national, local level organisational fields and institutions).</td>
</tr>
<tr>
<td><strong>Mechanisms</strong></td>
<td>The mechanisms provide ontological support for the constructs of the TEF that explain the bi-directional relationship between the firms and their environment (i.e. adaptation, selection, lock-in and</td>
</tr>
</tbody>
</table>
Causal Power
The inherent potential of an entity, or a structure, to do certain things, and not others, arising from the nature of the entity or structure. Causal powers may be enacted or not.

Causal powers provide philosophical foundation to the TEF conceptualisation of both the influence of the environment over firms, and the potential actions that firms may take to respond. While the environment exercises selection pressure on its firm through the institutions (i.e. lock-in mechanisms, isomorphism), the firms act in response to such selection pressures by enacting their ability to adapt (i.e. internally-oriented strategies) or change the environment (i.e. externally-oriented strategies).

Events
The happenings or actions resulting from the enactment of causal powers of entities or structures. Ontologically independent of our ability to know them through the empirical observation of their effects.

The institutional environment can be seen ontologically as a structure with the potential to create business opportunities or raise institutional barriers. The key events subject of this study are those resulting from pressures of the institutional environment over the DSs, as well as those resulting from DSs’ strategic responses to them.

Emergence
The properties and causal powers of entities and structures intertwine and cannot be seen in isolation because, when combined, new causal powers and mechanisms emerge.

The theoretical construct of embeddedness in the TEF can be conceptualised as an emergent property of the social reality that results from the interaction between firms and the environment. The property of hybridity in the institutional regime emerges from the interaction between the DSs and two industries. The core-periphery relationship between firms can also be seen as an emerging property resulting from the interaction of independent entities (peripheral firms and core firms in isolation are just firms, but when looked as part of an industry new structural properties and causal mechanisms emerge).

Open System
Boundaries of social systems are fluid and permeable. Mechanisms enacted in a system and context may generate different events in a different context.

The property of an open system underpins the co-evolutionary properties of the TEF (i.e. multi-levelness, multidirectional causalities, nonlinearity, and path and history dependence). This implies that the findings of empirical research can only explain a phenomenon within a specific social system. Therefore, the constructs of the TEF are well suited to study e-entrepreneurship, which is a complex social phenomenon embedded in a given environment that can be conceptualised as an open system.

Table 4.1 – CR ontology and its relevance for TEF-based research, from Wynn & Williams (2012)

Adopting a CR ontology, DSs can be seen as real entities with individual causal powers located in an organisational field structure with emerging variations.
properties and mechanisms, and whose capacity to act is constrained by other social structures (i.e. hybrid industry regime, economic, socio-political environments). CR-based research into e-entrepreneurship is seeking to find causality in events in order to provide potential explanations for how DSs interact within the social structures that constitute their environment; and why and how some DSs are able to grow and develop, while other fail. In doing so, CR differs from both the positivist and interpretivist approaches, which are content to predict or explain ‘what is’ instead of ‘how and why something came to be’ (Myers & Klein, 2011). As Wynn & Williams (2012; p. 789) explain, CR specifically focuses on “describing causality by detailing the means or processes by which events are generated by structures, actions, and contextual conditions involved in a particular setting”.

While most studies into organisational management, information systems and entrepreneurship have adopted either a positivist or an interpretivist philosophical foundation (Jennings & Mole, 2013; Myers & Klein, 2011; Wynn & Williams, 2012), Jennings & Mole (2013) propose that CR offers a stronger ontological foundation than either positivism or interpretivism when undertaking an entrepreneurship study, precisely because CR seeks to understand and explain how and why certain social events occur in a specific context, as a result of complex interactions between agents and sometimes directly unobservable mechanisms. In following Jennings & Mole (2013)’s advice, it is believed that CR is well suited to address the research questions outlined in Chapter 1, which are seeking to explain the mechanisms behind e-entrepreneurship by understanding
the causality of events through the co-evolutionary selection and adaptation mechanisms occurring between DSs and Latin American social structures.

In following this CR foundation, this research considers the unit of analysis of a firm (i.e. DS) as a real entity that can be studied in a particular context (i.e. Latin American countries), and explained through the events occurring as a result of the causal powers exercised by agents (i.e. actors in the organisational field) and structures (i.e. environments) through mechanisms (i.e. institutions and strategic choice) with stratified and emergent properties (i.e. embeddedness, multi-levelness and hybridity).

4.3.2 Epistemology

Whilst ontologically CR assumes an independent objective reality, epistemologically CR proposes that knowledge claims are subjectively developed through experience, and that the evaluation of truth depends on the interpretation of such experience and of its relationship when compared with existing knowledge. Table 4.2 presents a summary of the key assumptions of CR epistemology, as presented by Wynn & Williams (2012), and its relevance to this research.

<table>
<thead>
<tr>
<th>Assumption of CR Epistemology</th>
<th>Implications for this Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mediated knowledge</strong></td>
<td>The interviewees participating in this research may only have a partial understanding of their reality, as their knowledge is mediated by their experience and the social structures they live in. Therefore, triangulation of empirical data between different actors in the organisational field is necessary to enhance the validity of the findings.</td>
</tr>
</tbody>
</table>
Explanation rather than prediction

CR research seeks not to predict, but to explain, giving emphasis to causality, structures and contextual factors.

The research questions guiding this study do not seek to predict the performance of DSs, but to understand how DSs in the particular context of Latin America can overcome the challenges imposed by the environment and seize business opportunities. Because CR seeks to explain social phenomena through mechanisms enacted in a particular context, it is well suited to address the research questions.

Explanation via mechanisms

CR attempts to explain reality by identifying the conditions that enable, trigger or block certain events, based on the causal power of the structures and entities involved.

The research is located in the specific context of Latin America, and recognises that the findings are bound to this setting. Where applicable, findings are contrasted with potential alternative explanations based on other frameworks, such as LSM.

Unobservability of mechanisms

Beliefs in the existence of some mechanisms may be grounded in the ability to observe them directly, or the ability to observe them indirectly through their effects.

While evidence of the existence of some of the constructs of the TEF may not be gathered through direct observation (i.e. institutions, lock-in and variation mechanisms), the research tools employed in this study aim to discover empirical evidence of their effect on the development of DSs.

Multiple possible explanations

CR assumes that reality is an open system; and hence that claims for knowledge can only be valid in a specific context, and must recognise that multiple explanations may be possible, since not all mechanisms may be observable.

The research is located in the specific context of Latin America, and recognises that the findings are bound to this setting. Where applicable, findings are contrasted with potential alternative explanations based on other frameworks, such as LSM.

Table 4.2 – CR epistemology and its relevance for this research, from Wynn & Williams (2012)

As discussed in Chapter 3, the TEF was chosen as the theoretical framework for this research because of its ability to explain both how firms may adapt in response to the selection pressures of a given environment, and also to explore the causal relationship between firms’ survivability, their particular environment, and their strategic choices. The epistemological assumptions of CR are precisely focused on providing causal explanations for complex social phenomena through observable and unobservable mechanisms; and therefore, CR provides a strong epistemological foundation for this TEF-based research.
4.4 Research Method

In order to gain empirical evidence that the mechanisms described in the TEF can explain events affecting the DSs in Latin America, this research adopts a qualitative approach; undertaking an exploratory field study based on semi-structured interviews and direct observations. As Buchanan & Bryman (2007; p. 483) explain, the research method must be:

An appropriate tool in relation to research topic and questions... [That is] shaped not only by research aims, norms of practice, and epistemological concerns but also by a combination of organizational, historical, political, ethical, evidential, and personally significant characteristics of the field of research Buchanan & Bryman (2007; p. 483).

4.4.1 Qualitative exploratory research method

This study follows a qualitative exploratory research method, employing deductive-inductive reasoning. It is deductive and exploratory as it explores the potential of the TEF to explain the phenomenon of e-entrepreneurship in Latin America. Whilst the constructs of the TEF guided the initial data analysis deductively, subsequent phases of analysis inductively uncovered new constructs that were not part of the TEF. The iterations of deductive and inductive analysis, discussed in more detail in Section 4.6, enabled the creation of a dialogue between the TEF and the empirical evidence.

The novelty of the phenomenon, the lack of existing empirical research employing the TEF to study DSs, and the need to look flexibly for emergent themes whilst also seeking to decipher the meaning of evidence collected in the field, were the main considerations underlying the selection of a qualitative exploratory approach (Cassell & Symon, 1994). Furthermore, as suggested by
Bryman & Bell (2007), qualitative methods are particularly useful when trying to understand the phenomenon from an insider’s perspective, when context plays a major role, and where there is a major emphasis in the understanding of the process rather than simply the outcome. The research questions outlined in this study required the analysis of LADSs as firms embedded in a particular environment within a specific timeframe. Consequently, a qualitative method is ideal, as it is “oriented towards analysing concrete cases in their temporal and local particularity and starting from people's expressions and activities in their local contexts” (Flick, 2009; p. 21).

Qualitative exploratory research has long been used in the study of social phenomena, because it enables the investigation of how actors behave without requiring the use of the more rigid closed systems (where all the variables are accounted for and controlled) associated with quantitative methods (Gill & Johnson, 2010). Other researchers studying e-entrepreneurship have also employed qualitative research methods to study DSs from various perspectives (Asghari & Gedeon, 2010; de Medeiros Bezerra et al., 2012; Effaha, 2013; Kollmann, 2006; Matlay & Martin, 2009; Rios, 2014).

Moreover, qualitative research is also well suited for CR-based studies using the contextually intensive research tools (i.e. interviews, direct observations) necessary to uncover the causal mechanisms behind a social event. In reference to CR-based research on entrepreneurship, Jennings & Mole (2013; p. 12) pointed out that in social sciences, the central construct of mechanisms in CR are at “the core of exploratory and explanatory research, and theory building”. While Jennings & Mole (2013) proposed that both quantitative
and qualitative methods can be used independently of a philosophical foundation, they believed that qualitative research is superior in explaining potential causality of events, especially when “studying a limited number of examples” (Jennings & Mole, 2013; p. 13); and therefore, given that this research is based on a relatively small number of instances when compared with those using extensive research tools such as surveys; it is believed that a qualitative approach is better suited to exploring the potential of the TEF to explain the phenomenon of e-entrepreneurship in Latin America.

4.4.2 Field study

A range of different methods has been used to undertake qualitative empirical research in information systems (Horn, 1973; Klein & Myers, 1999; Meredith, 1998; Palvia, Pinjani, & Sibley, 2007). Horn (1973) initially classified these methods into four categories (case study, field study, field tests, and laboratory studies); before Palvia et al. (2007) expanded this classification to fourteen. Amongst the multiplicity of qualitative research methods, case studies remain one of the most commonly used in empirical research in information systems (Myers & Klein, 2011; Palvia et al., 2007; Wynn & Williams, 2012).

Yin (2009) defines a case study as

An empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context especially when the boundaries between phenomenon and context are not clearly evident (Yin, 2009; p. 18).

Citing other authors to support their position, Wynn & Williams (2012) go to the extent of suggesting that, as a research method, the case study is “perhaps 124
of complex events” (Wynn & Williams, 2012; p. 788). In case studies in organisational and information systems research, the typical unit of analysis is the firm, and entails the study of a single instance “that can provide a great deal of, largely qualitative, data” (Easton, 2010; p. 118). A multiple case study refers to a variant of the case study method, where a small number of cases is involved (Meredith, 1998). Whilst there is no set limit on the number of cases analysed in multiple case study research, both Easton (2010) and (Yin, 2003) cited Eisenhardt’s (1989) recommendation that researchers should limit the number being studied to between four and ten. “The justification for this statement is based on her experience with case research and is implicitly about increasing the number of cases as a way of finding the same results in each case” (Easton, 2010; p. 118). Another variant of the case study method is the field study, which is often used when “many cases are involved and are selected with some definitive research pattern in mind… however, a field study is not an attempt to ‘increase the sample size of the study’ but rather, like follow-on experiments or surveys, to extend the study to new populations” (Meredith, 1998; p. 443).

In the context of information systems research, Palvia et al. (2007; p. 2) define a field study as the investigation of “multiple and related processes/phenomena in single or multiple organizations.” As an example, Jennings & Mole (2013) studied CR-based research on entrepreneurship, employing a combination of quantitative statistical methods and a qualitative explanatory field study interviewing thirty three start-ups and fifteen representatives of other organisations; concluding that the qualitative analysis resulting from the qualitative field study enhanced their ability to identify and
assess plausible causal mechanisms in a way that quantitative methods alone could not offer; issuing the following recommendation for future CR-based researchers into entrepreneurship: “the choice of methodological approach should reflect the extent to which the methods selected can provide access to [the respective mechanisms]” (Jennings & Mole, 2013; p. 12).

Drawing on Jennings & Mole’s (2013) recommendation to adopt the research method most appropriate to uncover mechanisms and emergent structures, the research method chosen for this study is a qualitative exploratory field study, including DSs and several actors located in the organisational field of the different environments and levels conceptualised in the TEF.

4.5. Data Collection

The field study used two qualitative research data collection tools in order to generate empirical data: semi-structured interviews and direct observations. The combination of these two methods facilitated the triangulation of results, as recommended in the CR methodological guidelines, and providing empirical support for the research findings.

4.5.1 Semi-structured interviews

A semi-structured interview script was devised containing predefined open-ended questions based on the research questions and following the key constructs of the TEF. The script provided a structure to guide the interview; although a conversational approach using open-ended questions provided the necessary flexibility needed to discover alternative possible mechanisms and emergent causal powers not considered by the TEF.
Researchers have defined semi-structured interviews in different ways (Aberbach & Rockman, 2002; Berry, 2002; Bryman & Bell, 2007; Myers & Newman, 2007); with the Bryman & Bell (2007) definition capturing the common elements:

[A semi-structured interview] has a series of questions that are in the general form of an interview schedule but is able to vary the sequence of questions... the interviewer usually has some latitude to ask further questions in response to what are seen as significant replies (Bryman & Bell, 2007; p. 213).

Semi-structured interviews have been widely used as an exploratory data collection tool in areas where previous empirical research is limited, providing the researcher with a richer context and deeper understanding of the way interviewees perceive the research problem (Aberbach & Rockman, 2002), and qualitative empirical studies in information systems and entrepreneurship have supported this approach (Horn, 1973; Jennings & Mole, 2013; Myers & Newman, 2007; Palvia et al., 2007; Wynn & Williams, 2012). However, semi-structured interviews also present challenges that, as proposed by Berry (2002), must be addressed in order to be viewed as a sufficiently reliable research tool. To improve the validity and reliability of the interviews undertaken in this study, the semi-structured interviews were designed according to the model proposed by Myers & Newman (2007), following a basic script with an introduction, a list of questions based on the theoretical framework (discussed in detail in Section 4.5.), and a closing section.

While all of the questions were covered in every interview, the structure of the conversation varied, as the interviews flowed in different directions depending
on the interviewees’ answers. The objective of each interview was to maximise “the extent to which the interviewee disclose[d] important information which in turn affects the quality of the data” (Myers & Newman, 2007; p. 12). When an interviewee introduced a new concept, or when additional unexpected information on a particular topic was offered, new questions were devised and the script sequence was modified. The researcher attempted to discover the interviewee’s world in their own language by listening, prompting, and directing the conversation with as much flexibility as possible, in order to make the interview interesting for both parties, whilst at the same time ensuring that all of the questions in the script were addressed.

Whilst undertaking the study, the researcher was also a full-time practitioner at a multinational firm. Although this role was not directly related to the specific area of research, nor represented a conflict of interest with the organisations contacted in the course of this study, the dual role of researcher as a practitioner was disclosed from the outset, during the introductory phase of the interview process and in writing before the interviews commenced via a disclosure statement, which also included the nature of the research, the way the data would be used, and the terms of confidentiality and anonymity. In most cases the interviewees appeared neutral to the researcher’s dual role; however, in some instances, the interviewees expressed that they had accepted the interview due to their interest in establishing a relationship with the researcher in their practitioner role. When interviewees inquired about the researcher’s perspective as a practitioner, the response was to defer such conversation until after the interviews had taken place, in an attempt to minimise any potential bias in the
interviewee’s response. Myers & Newman (2007) highlighted the lack of guidelines for reporting how semi-structured interviews in qualitative research are performed, proposing seven in their research. Table 4.3 summarises how Myers & Newman’s (2007) guidelines were followed in this research.

<table>
<thead>
<tr>
<th>Guideline</th>
<th>Implications for this research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situating the researcher</td>
<td>Interviews commenced with an oral introduction and a document containing a detailed explanation of the purpose of the interview, the roles of the interviewer as a practitioner and researcher, the topics to be discussed, and the way the data would be managed.</td>
</tr>
<tr>
<td></td>
<td>The interview then provided a brief overview of the research.</td>
</tr>
<tr>
<td></td>
<td>The overview followed by asking the interviewee to talk about their role in the organisation, and the organisational field. In the case of e-entrepreneurs this was followed by requesting a brief history of the development of the DS, or in the case of other actors in the organisational field, of the relationship between their organisation and the DSs.</td>
</tr>
<tr>
<td>Minimising social dissonance</td>
<td>Most interviewees were introduced to the researcher by another person. Those interviewees who were not introduced by someone else had an existing relationship with the researcher.</td>
</tr>
<tr>
<td></td>
<td>Providing a warm introduction facilitated candid and open conversations in a shorter time.</td>
</tr>
<tr>
<td></td>
<td>All interviewees showed a willingness to share their experience and provide their input on the research questions.</td>
</tr>
<tr>
<td>Representing a variety of voices</td>
<td>Given the small number of team members and the flat organisational structure of the DSs in the study, the interviews were focused on the one or two e-entrepreneurs responsible for the strategic, organisational and financial decisions of the firm.</td>
</tr>
<tr>
<td></td>
<td>The interviews with representatives of other actors in the organisational field not only provided additional information on the environment in which DSs operate, but also offered a way to triangulate the data provided by the e-entrepreneurs.</td>
</tr>
<tr>
<td>Everyone is an interpreter</td>
<td>Interviews were done in Spanish (in which the researcher is fluent) when the interviewees were native Spanish speakers; and were carried out in English when the interviewees were Portuguese native speakers and felt more comfortable communicating in English than in Spanish.</td>
</tr>
<tr>
<td></td>
<td>During the interviews, the researcher tried to clarify any unfamiliar technical or academic terms, and requested...</td>
</tr>
</tbody>
</table>
questions are subject to the interviewee’s interpretation. Feedback after each question to ensure that the interviewee had understood the question.

| Use of models in questions and answers | – Techniques of mirroring, rephrasing and repeating were constantly used to ensure that the meaning of the interviewees’ responses was properly captured. On some occasions, the interviewees changed their response once they had the opportunity to hear the summary or rephrasing offered by the researcher.  
– In cases of interviews conducted in Spanish, when local language expressions were used, the researcher attempted to clarify their meaning and intent.  
– In the cases of the interviews undertaken in English with Portuguese native speakers, additional effort was made to ensure that the meaning of the questions and the responses were properly captured. |
| Flexibility | – The script used to guide the interviews was based on the theoretical framework, but the flow of the interviews changed as new concepts emerged.  
– The researcher tried to focus on topics that the interviewee was particularly excited about or where the response was unexpected or contradictory to other interviewees’ responses. |
| Confidentiality of disclosures | – The interviews were preceded with a document explaining the objectives, rights of the interviewees, obligations of the researcher, and the confidential and anonymous nature of the interviews.  
– The content of this document was summarised and reinforced orally during the interviews. Some interviewees acknowledged these conditions in writing, while others acknowledged them orally during the interview.  
– In each interview, the researcher asked for permission to record and transcribe the interviews and to take notes. |
| Table 4.3 – Implications of Myers & Newman (2007) guidelines for semi-structured interviews in qualitative research. |

Six of the interviews were conducted in English and the rest in Spanish, depending on the interviewee’s preference. Twenty-six were done in-person; with eleven undertaken via video conference, and nine by telephone. Interviews ranged between 45 and 90 minutes in length, with interviews carried out in-person lasting an average of 20 minutes longer than those undertaken via video conference or by telephone. Interviews done using video-conferencing software or telephone lasted an average of 55 minutes, with no significant time difference.
between the two media. To prepare for the interviews, publicly available secondary data was studied (e.g. websites and articles found in printed and electronic media). When carried out in-person, the interviews took place at the interviewees’ offices or at a public place located in the city of the interviewees’ primary residence. When undertaken via video conference or telephone, the researcher was based in a private office, with the interviewees located either at their office or home. The interviews carried out via video conference or telephone did not appear to result in a reduced level of understanding; although the in-person and video-conference interviews offered a number of advantages unrelated to the quality of communication and understanding.

The interviews conducted face-to-face offered the opportunity to capture additional contextual information (i.e. the arrangement of physical spaces, organisational dynamics among the people in the office, dress codes, language, artefacts, symbols, etc.) and enabled pre-and post-interview conversations that helped minimise social dissonance (Myers & Newman, 2007). Face-to-face interactions also permitted longer conversations, in which the interviewees were more willing to provide personal insights.

The interviews conducted using video conferencing technology tended to be more formal than those done in person, with interviewees seeming to be more concerned about optimising the time allocated for the interview, which resulted in more formal conversations. The absence of pre- and post-interview conversations reduced the opportunity to gain the same level of rapport and personal insights as in the face-to-face encounters; although the fact that the interviews were arranged through personal introduction did assist in reducing the social
dissonance between the researcher and the interviewee. The quality of the video was occasionally low, and this in turn served to distract the conversation for brief moments; however, for the most part the technical aspect of the communication was not an issue. The video conference offered some limited contextual information when the interviewee was located at her/his workplace, and offered the opportunity to maintain a high level of interest with minimum distractions, when compared to interviews conducted via the telephone.

Interviewees participating via telephone were similarly concerned with minimising social conversation and maximizing the time allocated to addressing the research questions. The absence of visual contextual information and the inability to perceive non-verbal communication seemed to prompt interviewees to ask the researcher more often whether their answers had been properly understood, which facilitated the use of techniques such as mirroring. However, fewer personal insights were shared during the telephone interviews, with interviewees seeming more prone to distraction. This finding concurs with research undertaken by Irvine, Drew & Sainsbury (2013), which considered whether social research practitioners reported differences between semi-structured interviews conducted face-to-face and on the telephone, whose findings were consistent with the experience reported here.

4.5.2 Sample selection

The countries chosen in this study to represent the Latin American organisational field were Brazil, Mexico, Argentina and Colombia. The choice of countries was based on two factors: the size of the economy, with these being the four largest economies in Latin America, based on GDP, and accounting for
three quarters of the nominal GDP of all Latin America and Caribbean countries (IMF, 2016); and accessibility, based on the financial and time constraints of this research. While including only four countries from the region limits the generalisability of findings to all other countries in Latin America, the term ‘Latin American DSs’ (LADSs) is used in this research in reference to the collection of DSs in the four countries that make up this study.

This research focuses on DSs, which were previously defined as temporary organisations in search of a scalable, repeatable, and profitable business model based on digital products or services. This definition was operationalised by selecting enterprises less than five years old at the time of initial contact. Due to their recent creation and limited funding, most of the LADSs in the study had very small teams of employees, usually between three to ten people, and therefore the DSs were often represented in the study by the e-entrepreneur(s) (founder or co-founder). Other actors in the organisational field were represented by the leading country managers of the various organisations. In the case of some accelerators and investors, the manager of the organisation was also a founder or co-founder of the same organisation, whilst in other cases they themselves were former e-entrepreneurs. The other organisations involved in the study, intended to represent the main actors in the organisational field located across the three environments of the TEF (industry regime, economic and socio-political) in the four countries including core firms, accelerators, investors, government agencies, non-profit organisations, and universities or research centres. The inclusion of representatives from these organisations responded to the guideline that a “representation of various voices” be gathered in order to
improve the validity of the semi-structured interviews (Myers & Newman, 2007); and the recommendation that ‘triangulation’ be achieved via the consideration of a range of different perspectives or interpretations of the same event, as suggested by Wynn & Williams (2012) to improve the reliability of CR qualitative research.

The initial sample was selected using a convenience sampling methodology, drawing on the accessibility of professional and personal contacts developed by the researcher in his role as a practitioner. These initial interviews were followed by a purposive sampling (snowball) technique, whereby the first interviewees introduced the researcher to subsequent interviewees. As there was no comprehensive survey or directory of LADSs available, a snowball sampling strategy was the most economic and efficient technique. Nonetheless, the limitations of snowballing as a sampling technique are acknowledged, especially its propensity to ignore a section of the population that are not immediately accessible through the researcher’s network of contacts. Given the limited timeframe available for this research, it was not possible to validate the significance of this potential sampling bias, an issue that should be addressed in any future research.

4.5.3 Direct observations

Direct observation is widely considered to be a robust semi-structured data collection tool, often used in qualitative studies. When engaging in direct observation, the researcher establishes a plan to focus their attention on certain aspects of a social event, in which the researcher participates as an observer, with the aim of gaining insider knowledge (Blandford, 2013). While the literature
in this area has not always offered a clear distinction between ethnography and
direct observation, the former is commonly associated with certain
methodological guidelines not necessarily applicable to the latter; and whilst
ethnography often includes repetitive and/or lengthy periods of observation, direct
observation is more commonly associated with a single event, limited in time
(Blandford, 2013). Blandford (2013) further explains that:

Observational studies most commonly take place 'in the wild', where the
'wild' may be a workplace, the home, or some other location where the
activity of interest takes place (Blandford, 2013; p.17).

In a similar way to semi-structured interviews, direct observations as a
research tool are compatible with a CR philosophical foundation, as they aim to
uncover evidence of structures, mechanisms and emerging causal powers that
are only observable in the field as they occur:

Interviews and narratives merely make the accounts of practices
accessible instead of the practices themselves. The claim is often made
for observation that it enables the researcher to find out how something
factually works or occurs (Flick, 2009; p. 222).

Flick (2009) distinguishes between two kinds of direct observation, based
on the role of the observer: non-participant and participant. In non-participant
observation, the observer refrains from intervening in the situation, instead simply
following the flow of events; whilst in participant observation, the researcher takes
an active role in the field, contributing to the flow of events being studied.

This study involved a total of four direct observations, one as a participant,
and three as a non-participant. Table 4.4 summarises how the direct observations
took place, following the five guidelines of observational methods adapted from
Flick (2009).
<table>
<thead>
<tr>
<th>Observations</th>
<th>1st Observation</th>
<th>2nd Observation</th>
<th>3rd Observation</th>
<th>4th Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A ‘start-up weekend’ in Colombia, in which the researcher observed the organisers of the event.</td>
<td>An Investors day organised by an accelerator in Argentina, in which the researcher participated as a potential investor for DSs pitching their business plan.</td>
<td>An Investors day organised by an accelerator based in Mexico, in which the researcher observed how DSs pitched their business plans to investors.</td>
<td>A ‘start-up weekend’ in Mexico, in which the researcher observed e-entrepreneurs attending the event.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Covert vs. overt</th>
<th>Is the observation revealed to those who are observed?</th>
<th>Overt</th>
<th>Covert to event organisers.</th>
<th>Covert to the e-entrepreneurs</th>
<th>Covert to other potential investors.</th>
<th>Covert to the e-entrepreneurs</th>
<th>Overt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-participant vs. participant</td>
<td>Does the researcher intervene in the field?</td>
<td>Non-Participant</td>
<td>Participant</td>
<td>Non-Participant</td>
<td>Non-Participant</td>
<td>Non-Participant</td>
<td></td>
</tr>
</tbody>
</table>

| Systematic vs. unsystematic | Standardised scheme applied or flexible and responsive to the events taking place? | Unsysteematic | Unsysteematic | Unsysteematic | Unsysteematic |

| Natural vs. artificial | Do observations take place ‘in the wild’ or are they moved to a special place? | Natural | Natural | Natural | Natural |
Self-observations vs. observing others

How much attention is paid to the researcher’s reflexive self-observation?

<table>
<thead>
<tr>
<th>Observation focused on the behaviours of organisers</th>
<th>Observation focused on the behaviours of e-entrepreneurs and reflexive on the behaviour of the researcher as potential investor</th>
<th>Observation focused on the behaviours of investors and e-entrepreneurs</th>
</tr>
</thead>
</table>

Table 4.4 – Classification of direct observations adopting the five guidelines, from Flick (2009)

These direct observations were designed to follow Flick’s (2009) seven phases of observation: selection of setting, definition of what is to be documented, training of observers, descriptive observations, focused observations, selective observations, and the end of the observation.

The selection of the settings was based on the two types of event accessible to the researcher, in which it was possible to observe in real time how DSs were influenced by institutions in the economic environment and the digital industry regime, with the settings described in greater detail in Section 4.5.4.2. In the four settings under observation, most of the participants were unknown to one another, with a purpose of the event being to meet others holding different roles for the first time; meaning that the presence of the researcher was both relatively inconspicuous and minimally disruptive. During this period of observation, the researcher did not record conversations, but was able to take notes, where generic descriptions of the settings in the field were recorded. Before the observations took place, the specific areas of focus were defined, according to the constructs of the theoretical framework. No training was necessary, as the observations were undertaken by a single researcher in a natural setting (in ‘the
During the observation process, the researcher attempted to identify if the mechanisms conceptualised in the TEF could explain the events being observed, with special attention paid to unexpected events not considered in the TEF and alternative plausible explanations noted, such as events associated with LSM. Subsequent observations incorporated the lessons learned at each phase, although by the fourth round of observations, very limited additional evidence was found.

**4.5.4 Data collection**

The process of data collection was undertaken in three phases, each followed by a related phase of data analysis.

The first phase of data collection took place from September to December of 2013, and consisted of a pilot study containing ten semi-structured interviews and one direct observation. The second phase of data collection was initially intended to form the core of the field study, and took place in the second half of 2014. It included two follow up semi-structured interviews with interviewees from the pilot study; thirty-four semi-structured interviews with new interviewees; and two direct observations. A third phase was added to the data collection schedule in order to address a number of areas that were deemed as needing additional validation after the second phase. This third phase took place in the first half of 2015, and consisted of four follow up semi-structured interviews with interviewees from the second phase, and one direct observation.

The phasing of the interviews was determined by the time taken to transcribe, code, and analyse the interviews undertaken in the first and second
phases. Whilst there was no intention to implement a longitudinal research method, the phasing of both initial and follow up interviews was appropriate for CR-based research searching for empirical evidence of events related to causal powers and mechanisms, which in some cases can only be observed over time (Wynn & Williams, 2012).

4.5.4.1 Data collection using semi-structured interviews

The interview script was refined over time with, in total, four different versions being developed (see Appendix A). The first version of the interview script, used in the pilot study, was designed deductively to explore how to operationalise the TEF in empirical research in order to address the research questions. The lessons learned from the pilot study led to development of the second script which was applied in the second/main phase of data collection, with questions designed to be more easily understood and thereby facilitate the conversations with subsequent interviewees. The second script also included questions related to new constructs outside of the TEF that were identified inductively from the data analysis conducted in the pilot study. The third script was also used in the second/main phase to follow up with former interviewees of the pilot study, and was designed to validate some concepts that were not clear from the pilot round of interviews, to enquire about the constructs identified inductively in the pilot study, and to explore whether the interviewees’ perceptions had changed in the interim. A fourth and final script was used in the third phase of data collection and was devised to follow up with interviewees from the second phase of interviews, with the aim of enquiring about the constructs identified
inductively in the second phase, and to explore whether the interviewees’ perceptions had changed.

Table 4.5 summarises the (anonymised) DSs and other organisations represented in the field study. Appendix B provides a summary of the business model for each DS in the study using some of building blocks of the BMC (value proposition, customer segments, revenue streams, sales channels, and customer relationships), and classifies the DSs according to the four stages of Blank & Dorf (2012)’s Customer Development Process.

<table>
<thead>
<tr>
<th>Codename</th>
<th>Actor</th>
<th>Area of activity</th>
<th>Interviewee</th>
<th>Phase</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertarg</td>
<td>DS</td>
<td>Online marketing</td>
<td>e-Entrepreneur</td>
<td>2, 3</td>
<td>Argentina</td>
</tr>
<tr>
<td>Affiliarg</td>
<td>DS</td>
<td>Online deals marketplace</td>
<td>e-Entrepreneur</td>
<td>1, 2</td>
<td>Argentina</td>
</tr>
<tr>
<td>Agroarg</td>
<td>DS</td>
<td>Agriculture sector online support</td>
<td>e-Entrepreneur</td>
<td>2</td>
<td>Argentina</td>
</tr>
<tr>
<td>Argagro</td>
<td>DS</td>
<td>Agriculture sector online support</td>
<td>e-Entrepreneur</td>
<td>1</td>
<td>Argentina</td>
</tr>
<tr>
<td>Autocol</td>
<td>DS</td>
<td>Online auto services</td>
<td>e-Entrepreneur</td>
<td>2, 3</td>
<td>Colombia</td>
</tr>
<tr>
<td>Contenbra</td>
<td>DS</td>
<td>Online content sharing</td>
<td>e-Entrepreneur</td>
<td>1</td>
<td>Brazil</td>
</tr>
<tr>
<td>Databra</td>
<td>DS</td>
<td>Business intelligence services</td>
<td>e-Entrepreneur</td>
<td>1</td>
<td>Brazil</td>
</tr>
<tr>
<td>Domserv</td>
<td>DS</td>
<td>Online employment exchange</td>
<td>e-Entrepreneur</td>
<td>2</td>
<td>Argentina, Mexico</td>
</tr>
<tr>
<td>Finanmex</td>
<td>DS</td>
<td>Online consumer finance</td>
<td>e-Entrepreneur</td>
<td>2</td>
<td>Mexico</td>
</tr>
<tr>
<td>Insurarg</td>
<td>DS</td>
<td>Online insurance broker</td>
<td>e-Entrepreneur</td>
<td>2</td>
<td>Argentina</td>
</tr>
<tr>
<td>Investarg</td>
<td>DS</td>
<td>Online financial services</td>
<td>e-Entrepreneur</td>
<td>2</td>
<td>Argentina</td>
</tr>
<tr>
<td>Langlatam</td>
<td>DS</td>
<td>Online language training</td>
<td>e-Entrepreneur</td>
<td>2</td>
<td>Latin America</td>
</tr>
<tr>
<td>Marketarg</td>
<td>DS</td>
<td>Online marketing</td>
<td>e-Entrepreneur</td>
<td>2</td>
<td>Argentina</td>
</tr>
<tr>
<td>Medarg</td>
<td>DS</td>
<td>e-Commerce services</td>
<td>e-Entrepreneur</td>
<td>2</td>
<td>Argentina</td>
</tr>
<tr>
<td>Nightcol</td>
<td>DS</td>
<td>Online music app</td>
<td>e-Entrepreneur</td>
<td>2</td>
<td>Colombia</td>
</tr>
<tr>
<td>Optocol</td>
<td>DS</td>
<td>Online optical services</td>
<td>e-Entrepreneur</td>
<td>2</td>
<td>Colombia</td>
</tr>
<tr>
<td>Shareapp</td>
<td>DS</td>
<td>Online sharing app</td>
<td>e-Entrepreneur</td>
<td>2</td>
<td>Global</td>
</tr>
<tr>
<td>Organisation</td>
<td>Type</td>
<td>Description</td>
<td>Role</td>
<td>Country</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------</td>
<td>--------------------------------------------------</td>
<td>------------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td>Trainbra</td>
<td>DS</td>
<td>Online training</td>
<td>e-Entrepreneur</td>
<td>Brazil</td>
<td></td>
</tr>
<tr>
<td>Trainlatam</td>
<td>DS</td>
<td>Online training</td>
<td>e-Entrepreneur</td>
<td>Latin America</td>
<td></td>
</tr>
<tr>
<td>Accelbra</td>
<td>Accelerator</td>
<td>Digital accelerator</td>
<td>Manager</td>
<td>Brazil</td>
<td></td>
</tr>
<tr>
<td>Accelmex</td>
<td>Accelerator</td>
<td>Digital accelerator</td>
<td>Manager</td>
<td>Mexico</td>
<td></td>
</tr>
<tr>
<td>Accelarg</td>
<td>Accelerator</td>
<td>Digital accelerator</td>
<td>Manager</td>
<td>Argentina</td>
<td></td>
</tr>
<tr>
<td>Accelatam</td>
<td>Accelerator</td>
<td>Digital accelerator</td>
<td>Manager</td>
<td>Latin America</td>
<td></td>
</tr>
<tr>
<td>Mexaccel</td>
<td>Accelerator</td>
<td>Digital accelerator</td>
<td>Manager</td>
<td>Mexico</td>
<td></td>
</tr>
<tr>
<td>Servglob</td>
<td>Core digital firm</td>
<td>Digital services multinational</td>
<td>Manager</td>
<td>Mexico</td>
<td></td>
</tr>
<tr>
<td>Servglob</td>
<td>Core digital firm</td>
<td>Digital services multinational</td>
<td>Manager</td>
<td>Brazil</td>
<td></td>
</tr>
<tr>
<td>Govarg</td>
<td>Government agency</td>
<td>Government regional agency</td>
<td>Official</td>
<td>Argentina</td>
<td></td>
</tr>
<tr>
<td>Govcol</td>
<td>Government agency</td>
<td>Government digital agency</td>
<td>Official</td>
<td>Colombia</td>
<td></td>
</tr>
<tr>
<td>Enterpcol</td>
<td>Not-for-profit</td>
<td>Enterprise support agency</td>
<td>Manager</td>
<td>Colombia</td>
<td></td>
</tr>
<tr>
<td>Enterparg</td>
<td>Not-for-profit</td>
<td>Enterprise support agency</td>
<td>Volunteer</td>
<td>Argentina</td>
<td></td>
</tr>
<tr>
<td>Suppglob</td>
<td>Not-for-profit</td>
<td>Digital enterprise support agency</td>
<td>Manager</td>
<td>Mexico</td>
<td></td>
</tr>
<tr>
<td>Suppglob</td>
<td>Not-for-profit</td>
<td>Digital enterprise support agency</td>
<td>Manager</td>
<td>Global</td>
<td></td>
</tr>
<tr>
<td>Univarg</td>
<td>University</td>
<td>Digital economy research &amp; support</td>
<td>Academic</td>
<td>Argentina</td>
<td></td>
</tr>
<tr>
<td>Univmex</td>
<td>University</td>
<td>Digital economy research &amp; support</td>
<td>Academic</td>
<td>Mexico</td>
<td></td>
</tr>
<tr>
<td>Reslatam</td>
<td>Research centre</td>
<td>Digital economy research &amp; support</td>
<td>Academic</td>
<td>Latin America</td>
<td></td>
</tr>
<tr>
<td>Angelmex</td>
<td>Investor</td>
<td>Digital enterprise investor</td>
<td>Investor</td>
<td>Mexico</td>
<td></td>
</tr>
<tr>
<td>Angelatam</td>
<td>Investor</td>
<td>Digital enterprise investor</td>
<td>Investor</td>
<td>Latin America</td>
<td></td>
</tr>
<tr>
<td>Fundarg</td>
<td>Investment fund</td>
<td>Digital enterprise investor</td>
<td>Investor</td>
<td>Argentina</td>
<td></td>
</tr>
<tr>
<td>Argfund</td>
<td>Investment fund</td>
<td>Digital enterprise investor</td>
<td>Manager</td>
<td>Argentina</td>
<td></td>
</tr>
<tr>
<td>Ventarg</td>
<td>Venture capital</td>
<td>Digital enterprise investor</td>
<td>Manager</td>
<td>Argentina</td>
<td></td>
</tr>
</tbody>
</table>

**Total Interviewees**: 40  
**Total Interviews**: 46

Table 4.5 – Organisations represented in the field study

4.5.4.2 Data collection using direct observations

The first direct observation was the result of an invitation from an e-entrepreneur who is an active participant and organiser of ‘start-up weekend’
events in South America. The observation included travelling within Colombia from Bogota to Manizales with part of the organisation team, and also included attending the first day of activities, dedicated to the coordination and organisation of the start-up weekend. During the event, several unstructured conversations took place between the researcher and participants in the event, including government officials who were representing agencies that support innovation and entrepreneurship, representatives of global digital firms sponsoring the events, local organisers, e-entrepreneurs acting as volunteers, and representatives from local universities and not-for profit organisations supporting the development of e-entrepreneurship in Latin America.

The second direct observation resulted from an invitation from an interviewee to participate as coach and potential investor to several e-entrepreneurs presenting their projects at a ‘mentors’ day’ organised by an accelerator in Argentina. The interactions in this event were more intimate, organised around tables with groups of between three and five coaches and potential investors, and the e-entrepreneur(s) of a DS. In this forum, the e-entrepreneur(s) introduced their projects and answered questions in ten to fifteen minute sessions, rotating around different tables until a full round across all tables was completed. The session was followed by unstructured conversations with other mentors, potential investors and e-entrepreneurs in a social setting.

The third direct observation undertaken was the result of an invitation from a potential interviewee who offered the researcher the opportunity to act as an observer at an investor’s day organised by an accelerator in Mexico. During the event, e-entrepreneurs presented their ‘elevator pitch’ to an audience of potential
investors, answering questions in limited time slots, with potential investors able to commit capital investment to their preferred projects at the end of the session. The researcher’s participation was followed by an unstructured conversation with the initial contact.

The fourth direct observation arose from an invitation extended by an e-entrepreneur in Mexico to attend a start-up weekend as an observer. The observation included a full day of activities, followed by unstructured conversations with e-entrepreneurs and local government officials representing agencies who support innovation and entrepreneurship; along with representatives from not-for profit organisations supporting the development of e-entrepreneurship in Latin America.

The direct observations were not recorded, but notes were taken during the sessions to describe the setting and the participants. The notes included both instances of observed events that seemed to be related to the constructs of the theoretical framework, and instances of events that seemed to require alternative explanations. The researcher notes of the direct observations were later reviewed and transcribed into Microsoft Word.

4.6 Data Analysis

Template Analysis (King, 2012) was used as the qualitative data analysis technique to analyse the interviews and the notes gathered from the four direct observations.
4.6.1 Preparation of data

Each of the interviews was electronically recorded, amounting to a total of over 50 hours of recorded voice or video amassed during the entirety of the period of data collection; an average of over one hour per interview. The recordings were transcribed, and (where needed) translated into English by an external provider before being reviewed by the researcher. The transcripts from the interviews and the notes from the direct observations were coded into the NVivo software tool, following a Template Analysis technique, based on

A coding template, which summarises themes identified by the researcher(s) as important in a data set, and organises them in a meaningful and useful manner. Themes are recurrent features of participants’ accounts characterising particular perceptions and/or experiences that the researcher sees as relevant to their research question. Coding is the process of identifying themes in accounts and attaching labels (codes) to index them (Brooks & King, 2014; p. 5).

Template Analysis provided the flexibility to add or remove codes and themes based on the analytical results of the different phases of data collection and analysis (King, 2012). As Braun and Clarke (2006) point out:

[A researcher] can either code for a quite specific research question (which maps onto the more theoretical approach) or the specific research question can evolve through the coding process (which maps onto the inductive approach) (Braun & Clarke, 2006; p. 12).

While the interviews gathered in the first phase were coded with a deductively designed template based on the TEF, the coding process revealed that some codes were not relevant to the research questions, whilst some of the deductive codes were not adequate when seeking to explain all of the events. Consequently, in the second and third phases, some codes were removed, some were consolidated, and others were added. Following King (2012), the codes
added inductively were grouped into themes, which were compared with the constructs of the alternative theoretical frameworks explored in the literature review detailed in Chapter 2. When it was discovered that constructs from these alternative frameworks had the potential to better explain the events in question, the appropriate codes were added to the template, following the constructs of the respective theoretical frameworks (i.e. Business Ecosystems, Institutional Entrepreneurship, LSM). Where no corresponding link was found between the inductively added codes and the existing literature, the inductive codes remained ‘as is’ in the template. Many such codes thus provided the foundation for the theoretical contributions offered by this research; and codes that were not considered relevant to the scope of this research (i.e. those related to an individual or intra-firm level) were discarded. In the third phase, the data collected in the first and second phases was re-coded using the third template. The three templates showing the evolution of the codes are provided at Appendix C.

The findings of this research are presented in Chapters 5 and 6, following a structure based on “the main themes identified, [and] drawing illustrative examples from each [interview] transcript [or direct observation research notes] as required” (Brooks & King, 2014; p. 9).

4.6.2 Instance and cross-instance analysis

The researcher coded the text for each instance, referring to either the transcript of an interview or the notes of a direct observation, assigning template-based codes designed to best explain the event in question. Some sections were assigned a distinctive code when the related event appeared to be clearly explained using a basic theoretical construct. Other sections were coded with an
overarching theme, which grouped several codes together when an event appeared to be explained by related basic theoretical constructs, but did not exactly match one of them. When alternative explanations could be offered for a particular event, the text was coded using multiple codes or themes. The occurrence of one code across instances was compared in order to ensure that it was being used consistently. Sections comprised of multiple codes were similarly compared to sections containing a single code, in order to determine if there were predominant conditions that could be identified using one particular code. When a section could not be assigned a code because it did not seem sufficiently robust to explain an event, a new inductive code was assigned to represent a plausible explanation. When an inductive code was created, previously codified instances were scanned again in order to seek to identify events that could be assigned to it. For the analysis of subsequent instances, these inductive codes were used as part of the template and assigned when finding a similar event.

This process is compatible with CR research that relies on retroduction, which is defined as “an attempt to link the capacities that are inherent within the explicated structural components and their relationships to the specific events which we seek to explain” (Wynn & Williams, 2012; p. 799). Retroduction differs from other forms of theoretical inference such as deduction, which seeks to falsify hypothesised theoretical relationships, and induction, which seeks to identify theoretical constructs, relationships and patterns emerging from empirical data. Retroduction implies that
If no existing mechanisms are adequate to explain the phenomena being studied within a specific context, a new mechanism (or set of mechanisms) is proposed which, if it were to exist and act in the postulated way would account for the phenomenon in question (Wynn & Williams, 2012; p. 800).

This form of analysis is a creative process that requires the researcher to explore to what extent existing theories can explain an event, versus alternative plausible explanations in any given context. Therefore, the data analysis in a CR study is likely to occur “in an iterative manner during data collection and analysis involving corroborating interviews, high-order coding, within and cross-case analyses, process tracing, and process modelling” (Wynn & Williams, 2012; p. 800).

Once all of the instances in this research were coded, across-instance analysis was done, in order to explore whether the codes had been used consistently. When events in different instances were coded the same, but seemed to refer to different or conflicting situations, the researcher sought a more contextually grounded meaning for the evidence in each of the instances in question (King, 2012). In some cases, it was possible to recognise that the context of the events influenced the interviewees’ perspective, resulting in conflicting explanations of the same event. Such situations enabled the discovery of mechanisms and structures not directly observable, but that were reflected in the way the context influenced events (e.g. the structural property of hybridity of the industry regime). In cases where the context appeared to be comparable, but where conflicting explanations were provided for similar events, the prevalence of concepts across-instances was taken into consideration, assigning the code most commonly used in similar instances, while also noting the possibility of alternative explanations. Sections with multiple codes were also compared
across-instances in order to identify any similarities. In some cases, this resulted in the consolidation of multiple deductive codes into a single entity.

Such iterations between the data and the codes in the template were repeated in each of the three research phases. By using the process of iteration, the researcher aimed to identify different potential mechanisms at different levels, in order to offer a “logically compelling explanation of the observed events given the specific conditions of the contextual environment” (Wynn & Williams, 2012; p. 800). A table providing the frequency of coding using the third template is included in Appendix D.

4.6.3 Triangulation

In CR epistemology, reality is only partially accessible to researchers through the mediated knowledge of observable events. This may result in multiple plausible explanations for the observed events; and therefore researchers should approach the “underlying reality from multiple viewpoints in order to overcome our perceptual limitations” (Wynn & Williams, 2012; p. 803). Triangulation therefore provides a useful purpose by identifying the different structures that are only accessible through different experiences, methods, or perspectives, and also controls for biases resulting from the research process. Following the methodological principle of triangulation for CR research as outlined by Wynn & Williams (2012), this study undertook triangulation at two different levels: data and methodological.

Capturing perspectives from different actors participating in the same event is necessary when seeking to understand a complex social phenomenon
(Mathison, 1988); and as a consequence, this study triangulated the empirical data gathered from interviews with e-entrepreneurs with the data obtained from interviews with other actors in the organisational field, including representatives of accelerators, venture capital funds, not-for-profit organisations, core firms, government agencies, and academic institutions. Such a multiplicity of perspectives provided a more comprehensive understanding of the complex social phenomenon of e-entrepreneurship in the context of Latin America, and this data triangulation allowed for the identification of conflicting and supporting perspectives, which were reported in the results, together with possible explanations for the findings.

Methodologically, the research triangulated the findings obtained from the two methods of data collection, semi-structured interviews and direct observations. The interviews provided a more systematic approach to uncovering structures and mechanisms across different instances; while the direct observations provided a real-time tool to observe the process by which some of the structures act over the DSs and how, in turn, the DSs react to them. Whilst the analysis undoubtedly relied more heavily on the transcripts from the interviews, the analysis of the notes gathered from the direct observations provided valuable empirical support for some of the inductive codes identified during the analysis phase of the interviews.

4.6.4 Generalisation

Consistent with the principles of CR, the findings of this research are highly contextualised, and consequently there was never an intent to generalise from the findings of this study pertaining to Latin American countries to a broader
population; but rather to identify plausible causal explanations and mechanisms
at work in a particular context and with a particular sample in order “to obtain
insights as to how and why similar mechanisms could lead to different, or perhaps
similar, outcomes in a different setting” (Wynn & Williams, 2012; p. 804).
Nonetheless, having explored the potential of the TEF to explain events
associated to the LADSs and the inductively discovered constructs of this
research, the findings it contains provide a basis for analytical and theoretical
generalisation in order to study other DSs in similar settings.

4.7 Critical Evaluation of Research Methodology

Table 4.6 presents a reflexive critique of the extent to which this research
complied with the methodological principles of CR research from Wynn &
Williams (2012).

<table>
<thead>
<tr>
<th>CR methodological principle</th>
<th>Critical evaluation (Strengths/limitations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explication of events</td>
<td></td>
</tr>
</tbody>
</table>
| Identify and abstract the events being studied, usually from experiences, as a foundation for understanding what happened in the underlying phenomena. | Strengths
- The research method was aligned with the research questions seeking causality and explanation of events. Cross-instance analysis of different DSs in the same context allowed the researcher to compare how the structures affected DSs at different stages of development, enabling the analysis of plausible mechanisms and structures. Similarly, follow-up interviews in the second and third phases facilitated the discovery of causal powers only visible over time.
Limitations
- The complexity of e-entrepreneurship as a social phenomenon and the breadth of the TEF as a theoretical framework required extensive sampling across the organisational field to uncover a large set of mechanisms and structures. Therefore, the richness of the data collected around each instance in the field study and the ability to leverage the stories behind them was diluted in favour of a wider cross-instance analysis.
- A longitudinal study could have improved the identification of additional causal powers underlying the events. |
<table>
<thead>
<tr>
<th><strong>Explication of structure and context</strong></th>
<th></th>
</tr>
</thead>
</table>
| Identify components of social and physical structure, contextual environment, and relationships among them. (Critically described from actor’s viewpoint into theoretical perspective.) | **Strengths**  
- The retroductive analysis enabled the researcher to draw from the theoretical foundation of the TEF and the empirical data to gain evidence of multiple structures and mechanisms with bi-directional relationships between the LADSs and their environment.  
- The qualitative research method also provided a rich contextualisation of the events.  
**Limitations**  
- The identification of the environment structural properties of multiple embeddedness and multi-levelness was facilitated by the inclusion of multiple instances in several countries in the field study; however, this in turn diluted the potential to explore the specific mechanisms of each country in more detail. |

<table>
<thead>
<tr>
<th><strong>Retroduction</strong></th>
<th></th>
</tr>
</thead>
</table>
| Identify and elaborate on powers/ tendencies of structure that may have interacted to generate explicated events (an attempt to link the capacities that are inherent within the explicated structural components and their relationships to the specific events). | **Strengths**  
- The data analysis started with a deductive approach, and followed a recursive cycle where inductively identified constructs were contrasted with deductively driven constructs. This enabled a dialogue between the theory and the empirical data from which logical links were drawn between the events and possible causal mechanisms.  
**Limitations**  
- The potential to include more inductively identified constructs was diminished by the complexity and breadth of the TEF as a theoretical framework, which dominated the coding used in the template analysis. |

<table>
<thead>
<tr>
<th><strong>Empirical corroboration</strong></th>
<th></th>
</tr>
</thead>
</table>
| Ensure that proposed mechanisms have causal power and that they have better explanatory power than alternatives. | **Strengths**  
- The explanatory power of the frameworks identified in the literature (i.e. TEF and LSM) was contrasted with the empirical data collected. This contrast between the empirical evidence and the theoretical constructs evolved through the sequential cycles of the three analytical phases, which in turn enabled the identification of emergent structures (i.e. hybridity) and mechanisms (i.e. externally-oriented strategies of DSs) that had not been identified in the extant literature.  
**Limitations**  
- The theories that were explored for potential alternative mechanisms were limited to those identified in the literature review and considered the most relevant for each event. |

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<th><strong>Triangulation &amp; Multi-methods</strong></th>
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| Employ multiple approaches to support causal analysis based on a variety of data types and sources, analytical methods, | **Strengths**  
- Triangulation of findings from two different data collection methods, and from different actors in the organisational field strengthened the analysis of the empirical evidence.  
- While the research did not include a full theoretical triangulation, alternative theoretical frameworks to the TEF informed the analysis (i.e. business ecosystems, institutional entrepreneurship, LSM).  
**Limitations**  
- While the follow-up interviews were useful in supporting some of the findings, limitations in time and resources made it difficult to gain a |
investigators, and theories. deeper and wider understanding of how the causal powers of the structures at different levels affected the same DSs at different times.

- The data collection, coding, and analysis were done by a single researcher risking the possibility of strong researcher bias. The use of guidelines for the research design and the reviews with the research supervisors alleviated this risk to a certain degree.
- While the research employed two qualitative research methods to contrast and validate findings, the addition of a quantitative research method could have strengthened the reliability of the findings; however, limitations in time and resources prevented the implementation of a statistically significant survey.

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<th>Table 4.6 – Critical analysis of the research methodology using CR methodological Principles, from Wynn &amp; Williams (2012)</th>
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The research also aimed for consistency between the philosophical stance of CR and qualitative explanatory research methods, employing a combination of field study and direct observations as means of data collection. As discussed above, qualitative methods are suitable when undertaking critical research (Johnson, Buehring, Cassell & Symon, 2006); and the research strategy employed in this study, namely field study combined with data collection techniques of interviews and direct observations, is well suited to explanatory research that aims to explain the causal mechanisms underlying a social phenomenon (Marshall & Rossman, 1989). The reliability and validity of the findings based on the use of these research methods is illustrated in Sections 4.5.1 and 4.5.3, clearly demonstrating how this research followed the respective guidelines in its data collection and analysis. Consequently, it is proposed that this study has followed a methodology congruent with its philosophical stance, following the guiding principles of CR research, given the time and resources available. However, it is acknowledged that this study contains both limitations in its scope and opportunities for future research, which will be discussed in more detail in Chapter 7.
4.8 Ethics

Following the requirements stipulated by the University of Manchester, the appropriate ethics clearance was obtained before data collection in the field commenced. No specific ethical considerations were identified during the pilot project or subsequent phases of research (e.g. a risk to participants or researchers, whether physical or psychological; or issues that might be sensitive, embarrassing or upsetting). Each participant was sent a Participant Consent form and Participant Information Sheet (explaining that the information would be treated as confidential and anonymous and that the research results may be available to participants upon request), via email before they took part. The forms were delivered in English, and none of the participants requested the translation of the documents in either Spanish or Portuguese. Some participants responded to the form in writing, while others responded verbally accepting the terms contained therein. Some participants agreed to mentioning in the study’s results the names of the organisations they represented; however, despite this agreement, the names of all the organisations discussed during the course of this research have been anonymised. Participants were offered a copy of the research findings, in the form of a copy of published results. The data collected during the interviews and via direct observations was only available to the researcher and his supervisors, and was stored in secured personal computers, was lawfully processed, and not kept longer than the University of Manchester’s ethical research guidelines prescribe.
4.9 Summary

This chapter provides a review of the research methodology, which followed a three-phase process, based on a qualitative deductive explanatory field study following a CR philosophical foundation. The data collection tools and data analysis process are explained and justified in the context of CR research. The chapter then provided a critical assessment of the research methodology, based on the guidelines provided by Wynn & Williams (2012) for CR-based research, stating that no ethical concerns were identified.
Chapter 5

The Latin American Digital Start-ups’ Institutional Environment and the Triple Embeddedness Framework

5.1 Introduction

This chapter presents the findings of the study as related to the first research question, namely: how does the institutional environment influence the development of LADSs? This research has attempted to address this question by analysing the Latin American institutional environment using TEF constructs. The first section presents the findings gained from the actors who constitute the DSs’ organisational field, demonstrating the evidence that supports the adaptations to the TEF proposed in Chapter 3 for the creation of an industry regime containing the properties of hybridity and multi-levelness; analyses the effect that the DSs’ peripheral position has in their relationship with core firms, as well within the Latin American organisational field’s peripheral position in relation to the United States, and discusses the emerging endogenous institutions of the Latin American hybrid industry regime. The second section reveals how some unique aspects of the Latin American economic environment affect DSs’ development, before the third and final section discusses the influence of societal-level political and cultural exogenous institutions on the LADSs.

5.2 The Industry Regime of Latin American DSs

Section 3.2.2 introduced the industry regime as the TEF’s conceptualisation of the vertical embeddedness of firms, in which endogenous
institutions influence all DSs and mediate their relationships with the economic and socio-political environment.

### 5.2.1 The organisational field of Latin American DSs

#### Summary of key findings

- The TEF constructs can be applied in the study of DSs, conceptualising the population of DSs as part of an industry, which is in turn part of an organisational field.
- The organisational field has actors that can be mapped to the environments in the TEF.
- The evidence shows that actors may have multiple roles, consistent with the property of multidirectional causalities anticipated in a co-evolutionary framework.

#### Table 5.1 – Summary of key findings in Section 5.2.1

Within the TEF, a DS is defined as a firm located within a population of firms holding similar characteristics; hence, a DS is conceptualised in the TEF as a ‘firm-in-an-industry’. Consistent with the properties of DSs summarised in Table 2.2 of the literature review, the majority of participants in this study believed that the LADSs shared many common characteristics, thereby supporting the use of the TEF construct of ‘firms-in-an-industry’ in the study of DSs.

Furthermore, the TEF recognises that firms not only interact with other firms in their industry, but also with other actors who are part of the wider economic or socio-political environments. These actors build the DSs’ organisational field and shape the institutional environment in which they operate. As discussed in Section 2.4.2, institutions are simultaneously defining the environment in which actors operate, while also being reinforced by such actors. Therefore, identifying the actors that are part of the DSs’ organisational field is
critical to understanding the relationships between the DSs and their institutional environment.

Although the interviewees in this study did not refer directly to the construct of ‘organisational field’, all of them (on several occasions) referred to the ‘start ups’ ecosystem’, although there were occasional differences in interpretation. For example, an Accelerator Manager defined the ecosystem in terms of four pillars: government institutions, private investors, angel investors and e-entrepreneurs; an e-entrepreneur talked about the ecosystem mainly when referring to DSs and investors (both private and public); and a venture capital fund manager believed the ecosystem included local and foreign entities, such as foreign accelerators and foreign investors. These different interpretations can each be encompassed within the construct of an organisational field. All the respondents believed that the ecosystem has a significant impact on the development of DSs, an opinion consistent with the literature on business and entrepreneurial ecosystems (Arruda et al., 2013; Isenberg, 2011; Kantis & Federico, 2012; Moore, 2006; Neck et al., 2004).

The interviews showed that the DSs’ organisational field includes, as a minimum, the following actors: DSs, consumers, large firms (potential customers of the DSs), suppliers, accelerators, incubators, company builders, investors, core digital firms, core product-sector firms, industry associations (e.g. Chambers of Commerce formed by firms located in the product-sector industry, or recently formed associations aggregating firms in the digital industry, such as the Argentinean Association of Entrepreneurs), the media, universities, government, and not-for-profit organisations (e.g. Enterpcol and UPGlobal, not-for-profit
organisations who have been active in promoting the development of the entrepreneurial ecosystem in Colombia and Latin America respectively). Whilst these actors were identified and mapped inductively during the course of this study, they are congruent with those mentioned in the literature (Cohen, 2006; Hernández & González, 2016; Kantis & Federico, 2012; Neck et al., 2004), and as such can be mapped to the different environments of the adapted TEF, as illustrated in Figure 5.1.

Figure 5.1 – Mapping of DSs' organisational field to the TEF

As discussed in Section 2.4 (Isenberg, 2011; Kantis & Federico, 2012; Neck et al., 2004; Scott, 2014), the actors located within an organisational field are interdependent and influential. The following extract of an interview
undertaken with an accelerator manager illustrates how the actions of one actor can influence other actors in the organisational field:

That boy there... joined some partners when they left the university, they made web based football games. They sold the games [to a company in the US] ... Six months later, [a larger company in the US] bought it... [He] opened an Investment Fund... He became an angel investor...they immediately formed a new company... Actually, we also invested in that company, he has stocks in my fund and I have stocks in his company. And now, since he is a more developed entrepreneur, he is a mentor of the younger ones, and he is also a customer of our agency... This is what happens [when] an ecosystem is being formed; it needs a holistic view, extremely interdependent. (Accelarg)

This example shows that an actor may have multiple roles within an organisational field and that, for example, DSs funded by an accelerator may at some point become investors in the same accelerator; the government may be part of the socio-political environment while at the same time acting as an investor; and large firms may be competitors, customers, suppliers, and/or investors simultaneously. To illustrate this phenomenon, Figure 5.1 shows some actors mapped to more than one environment. Such interconnectedness among actors in the field is evidence of the multidirectional causalities anticipated by such co-evolutionary frameworks:

Organizations and their parts do not merely evolve. They co-evolve with each other and with a changing organizational environment... Changes may occur in all interacting populations of organizations, permitting change to be driven by mutual direct interactions and by feedback from the rest of the system (Lewin & Volberda, 1999; p. 526).
5.2.2 Multi-levelness

Summary of key findings

- The evidence supports the co-evolutionary property of multi-levelness of the TEF
- The evidence suggests that the institutions affecting the DSs’ organisational field are nested in three geographical levels: local, national and multinational.
- There are clear examples of DSs with business models operating at each of these three levels.
- Local and national embeddedness can be both a source of opportunity identification and competitive advantage.
- There is evidence of both institutional interactions occurring within each level, and of cross-level institutional interactions.

Table 5.2 – Summary of key findings in Section 5.2.2

As discussed in Section 2.5.3, co-evolutionary frameworks have the properties of multi-levelness. Geels (2014) incorporates two levels of institutional embeddedness within the TEF, an industry level that refers to the endogenous institutions unique to the industry regime, and a societal level that refers to the institutions exogenous to the industry regime and which affects all actors in the organisational field. Beyond these two institutional levels already considered in the TEF, the empirical evidence gathered during the course of this study showed that the LADSs operate at three geographical levels: local (city), national, and multinational, and supported the proposed adaptations to the TEF introduced in Section 3.2.5; as illustrated by this accelerator manager:

We have enterprises that are selling to the whole world, but they are doing their development in the region because it is cheaper; we have others that are selling only in a country, or even in a city. And the truth is that we found big enough markets in some sectors at a city level, others at a country level, others at a continent level, they vary a lot from industry to industry. (Accelmex)
Figure 5.2 illustrates the relationships between the DSs and the environment nested at different levels of embeddedness. Represented by dashed rectangles, industry-level endogenous institutions can be specific to a local population of firms, while others may be shared with a national population of firms, or with a multinational population of firms. Furthermore, exogenous institutions affect the organisational field overall, hence they are represented here by solid line rectangles that cross the hybrid industry regime, the economic, and socio-political environments, which are also represented as nested in local, national and multinational levels.
The study found some evidence supporting the conceptualisation of an organisational field at a local level, enabling DSs to detect business opportunities arising from local problems and to devise specific solutions, precisely because they are embedded in the environment at a local level. For example, in Bogota, the government issued regulations designed to control the circulation of automobiles known as “Pico y Placa”, to restrict the use of automobiles on certain days and in peak hours, in a bid to tackle the serious traffic congestion experienced in the city. As a consequence of this new regulatory regime, many people decided to buy a second car (often a used, cheaper one), in order to have a second mode of transportation available when they were not allowed to operate their primary vehicle. This has a positive impact upon the spare parts market and services for older vehicles, as many of these local owners chose to service their cars outside the large automobile dealerships. One e-entrepreneur built a business model arising from this local environment:

We fulfil a local need that is related to people that need service for their cars or parts to repair a damaged car. They need parts and service… But finding these [in Bogota] is very difficult. If you take it to the dealership it costs four times more than a normal shop, but how to know which ones are good?... So we offer the security of a certified partner and guarantee… we knew we were not going to have five hundred million users, but we decided to start with the local users. (Autocol)

In this instance, institutions acting in the socio-political environment at a local level offered an opportunity for a DS to enter the market. Had the DS not been embedded at the local level, such an opportunity would have been more difficult to identify, or may have not been identified at all. Nevertheless, the same conditions that created these opportunities can impose challenges to DSs seeking to expand if the business model is too dependent on these local
conditions; extending to DSs the work of Henderson et al. (2002), who suggested that the embeddedness of traditional offline firms can act as a strength as well as a constraint. Therefore, these findings provide empirical evidence of the embeddedness of some DSs at a local level, and challenge the utopian technological contention that all DSs have inherent internationalisation (Asghari & Gedeon, 2010; Castells, 2011; Fisher, 2010; Kollmann, 2006). Whilst their digital properties may allow LADSs to rapidly scale and reach customers anywhere in the world, a number of such companies are intentionally created with a local focus designed to meet a specifically local market need, rather than seeking instant internationalisation.

Similarly, the study found evidence supporting the conceptualisation of an organisational field at a national level, enabling DSs to detect business opportunities arising from discrete characteristics in the national institutional environment. Almost half of the DSs in the study intended to operate only at a national level. For example, an accelerator manager explained how a DS in Argentina was able to design a business model to improve the accounting of funds received by small businesses when their customers paid with a credit card:

It seems incredible, but nowadays for all the transactions at the stores that sell to the final consumer in physical premises and charge the customer with a debit or credit card, what is called the Point of Sale, the stores must manually count that income and how much they charged that day... by reading each printed and signed coupon and entering the information into [a spreadsheet]. (Accelatam)

In this example, the DS concerned was able to devise a solution affecting small businesses across the country, precisely because it was embedded in the national institutional environment. Furthermore, because the DS had existing
relationships with other actors in the organisational field operating at a national level, it was able to establish the necessary agreements with the relevant financial institutions in order to implement the solution. When discussing more traditional offline entrepreneurship, Jack & Anderson (2002) stated that entrepreneurs draw from their intimate knowledge of the local context, their contacts, resources, and local sources of advice “to recognise and understand what is required and available” (Jack & Anderson, 2002; p. 21). Therefore, these findings provide empirical evidence that the effect of embeddedness of entrepreneurial activities is equally applicable to e-entrepreneurship. DSs that operate at both the local and national levels are not dis-embedded from their environments because they are digital entities, a finding which supports the existing literature that asserts that all economic activity (including digital), is influenced by its local embeddedness (Dacin et al., 1999; Matuschewski, 2006; Murphy, 2015; Sandbrook, 2011).

Furthermore, the complexity of each national environment may also act as a barrier to entry for digital firms that are not embedded in the Latin American countries. This is applicable not only to DSs, but also to other actors in the field. For example, accelerators embedded in Latin America have an advantage when supporting the LADSs versus accelerators based in the United States that do not understand the cultural, normative and regulative institutions of the countries based in the region, as this accelerator manager explained:

Latin America seems to be a very big market, but it is also a very atomized and fragmented market... the fact of being in the region lets us look at the opportunities in a different way. (Accelatam)
An example of this advantage is evidenced in a DS in Uruguay, with whom Groupon attempted to compete. In this instance, the DS’s understanding of the local culture, along with their existing contacts in the country, worked to their advantage, and enabled them to block an outside competitor from successfully entering the market. As this accelerator manager explained:

[The DS] is a coupon service that has 80% of the market. Groupon has 6%. In Uruguay they haven’t been able to take these boys out, they are the market leaders. (Accelarg)

This provides empirical evidence, in Latin America, of what Reuber and Fischer (2011) identified when studying digital firms looking to internationalise:

While markets are becoming increasingly global, some are characterized by high structural barriers to entry for foreign firms, such as jurisdictional regulations and cultural barriers to adoption (Reuber & Fischer, 2011; p. 672).

The findings provided here also expand the work of Avgerou & Li (2013), by recognising that embeddedness not only helps DSs translate the problems faced in both national and local environments into business opportunities, but also can provide a strategic advantage over competitors that are dis-embedded from the same environment.

Nonetheless, the DSs that evolved in order to satisfy the needs created by the institutional environment in which they were embedded were also able to reach customers located outside it. A third of the DSs interviewed had customers based in different parts of the world, who had found their products through online searches, whether by accident or design, as illustrated in this instance:
Yes, look, we have clients all over the world: in Asia, in the Middle East, everywhere; people who learn about it for any reason, because they travelled… or [because they found it] online through search engines or online marketing. Someone who looks for our service will find [us] no matter where that person is. (Trainlatam)

Therefore, while some DSs offered digital products specifically designed to solve problems emanating from a local and / or national level, with a business model based on a local or national market, in some cases their online sales channels enabled them to transcend this environment; going in some part to explain why some have described DSs as firms with inherent internationalisation (Asghari & Gedeon, 2010; Kelestyn et al., 2017; Kollmann, 2006; Pezderka & Sinkovics, 2011).

Based on their digital properties, some of the DSs studied during the course of this research strategically designed their business models to be able to reach customers outside of their national institutional environment, and these can be conceptualised as being part of a multinational level organisational field. In these instances, the initial entrepreneurial activity to build the DS was embedded in a particular local and national institutional environment, but the market need that they addressed was not unique to that environment, allowing them to quickly expand to other countries. The following is an example of a DS that started in Argentina but which is now operating at a multinational level, offering technology to create intelligent banners for online advertisers:

From the conception we thought about going outside of the country… Of course our first customers were from Argentina… Now we have customers in other countries… for this kind of business your focus cannot be local… Now our banners are in India, Pakistan, in countries where we never dreamt… That gives you an idea of how this service can be global. (Advertarg)
Furthermore, some investors and accelerators were only interested in supporting DSs with business models that could be expanded globally, as this accelerator manager explained:

We select them based on... the size of the opportunity they pursue and the scalability; and on whether they have a worldwide or at least a regional scope. (Accelarg)

Therefore, these findings provide some support to the assertion in the literature that digital technologies enable a certain level of dis-embeddedness (Fisher, 2010; Freidman, 2005; Huang et al., 2017), expanding this notion by recognising that not all DSs are born global and that they may have different levels of embeddedness. Some DSs are undoubtedly created with worldwide aspirations, but others are focused on providing solutions to local or national problems, even if their digital sales channels allow them to reach customers located outside of the institutional environment in which they are embedded.

This multi-levelness goes beyond the DSs’ own business model or operations, and is reflected in the overall organisational field. The relationships that exist between the DSs and the actors in organisational fields at different levels are both multiple and symbiotic. Through these relationships, the norms and mind-sets of the organisational fields are replicated across Latin America. Specifically, this study found that all of the actors within the organisational fields of the Latin American countries being examined were strongly influenced by the mind-sets and cognitive frameworks of the organisational fields operating in the United States. As an example, this e-entrepreneur explained that despite never
leaving the country, he had learned about the basics of LSM and BMC through information published by an accelerator in the Untied States:

I started following a Hacker News blog from one of the largest accelerators in the Silicon Valley in the United States, it is called Y Combinator... Hacker News is a feed of news related to start-ups and in one of those feeds I saw references to books and I started reading some of them. I took elements of several... All of them talk about the same things... like the Business Model Canvas. (Databra)

Another example comes from an accelerator manager who founded his own business replicating functional-cognitive elements, from an accelerator franchise in the United States:

I like the playbook [of the US accelerator] ... and I want to use it as our basis because they have already proven it for years. And, what I’ll do is to test it and adapt it to the needs of our environment. (Mexaccel)

These examples reveal how actors functioning at different levels of the organisational field interact with one another. In these two instances illustrated, both the DS and the accelerator operate at a national level, but were influenced by frameworks developed outside of Latin America, which they then adapted to their particular environment. In addition, some actors based outside of Latin America have been actively engaged in the development of the Latin American organisational field. One example is provided by UpGlobal, a global not-for-profit that promotes training and mentoring to entrepreneurs across Latin America; with another instance Google Policy, a branch of Google dedicated to promoting the development of public policies in Latin America friendly to digital technologies. These multinational level actors continue to play an important role in the local and national process of institution building that is taking place within the Latin American DSs' organisational field.
The findings of this study support the conceptualisation of the organisational field in three nested levels, with institutions located at a higher level of the organisational field influencing DSs operating at a lower level. DSs operating at a local level benefit from the opportunities offered by the local environment, but because they operate within a country, they are also influenced by national level institutions. Furthermore, as discussed above, the multinational level organisational field also influences the local and national institutional environments across Latin America; whilst some DSs operate at each of the three levels, there are cross-level interactions among the actors in each level of the organisational field.

5.2.3 *The hybrid industry regime of DSs*

**Summary of key findings**

- There is evidence of DSs being subject to a hybrid industry regime that intersects a product-sector industry and a digital industry.
- Hybridity offers opportunities to innovate, but also presents challenges for DSs, who need to reconcile institutional pressures from two different industry regimes.
- Some actors in the organisational field become institutional entrepreneurs by taking an active role in the development of the digital industry regime.

As briefly discussed in Section 2.4, Avgerou & Li (2013) propose that DSs operate in a hybrid local and virtual environment that imposes different institutional pressures upon them. This research develops the notion of hybridity introduced by Avgerou & Li (2013), and the construct of an industry regime proposed by Geels (2014); further conceptualising DSs as subject to a hybrid industry regime. Most e-entrepreneurs spoken to in the course of this research
saw themselves at the intersection of two industries; a product-sector industry related to other offline firms operating similar businesses selling competing products (whether goods or services); and a digital industry related to other DSs and other larger digital firms selling unrelated or complementary digital products (goods or services). As an example, a DS providing online stock-brokering services could be classified both as a firm operating within the traditional financial industry (product-sector), and also as a firm based within the e-commerce industry (Digital). The comments from this e-entrepreneur illustrate how DSs perceive themselves as being at the crossroads of different industries:

What are we? A stock exchange, an Internet enterprise, an e-commerce site? Many times they do not know how to classify us... Studies on e-commerce look at us... and say: "no, they have nothing to do with e-commerce". But, studies that... look at us as a traditional stock exchange cannot find enough similarities... we are also different...but we belong to the financial sector, and to e-commerce... then, it is like a weird mix, isn’t it? (Investarg)

As the example above illustrates, it could be suggested that DSs have an ‘identity crisis’ when questioned about the industry that they belong to. Nonetheless, it is precisely this characteristic that has enabled them to gain a position in the marketplace, as this e-entrepreneur explained:

A great part of our success was to combine these two worlds... to understand the game rules of two worlds [that] are very different and to not break up with anyone. (Insurarg)

Therefore, hybridity is both a source of tension between two industry regimes, and a source of opportunity, allowing DSs to innovate by combining the elements of each industry regime that enables their business model.
The construct of a hybrid industry regime can also provide a theoretical explanation for the typology of digital entrepreneurship proposed by Hull et al. (2007). According to Hull et al. (2007)'s typology, first introduced in Section 2.2.1, DSs may be classified as mild, moderate or extreme in their digital business model, depending on the intensity with which they use digital technologies in their business activities (i.e. marketing, sales, product, distribution, operations, and stakeholder management). This research builds on this typology to propose that the intensity with which DSs use digital technologies is related to the mix of elements that the DSs draw from product-sector and digital industries. For example, while some DSs were created in a digital-product industry (e.g. digital marketing, big data analytics), others started in a non-digital-product industry (e.g. insurance broker, car dealer) and evolved from an offline business into a digital one. As the latter group digitalised, they drew from the institutions of the digital industry to transform their business activities.

Vignettes 5.1 and 5.2 explain in more detail how two DSs, one that moved from an offline product-sector industry into a digital industry, and another that that was created as a digital enterprise, reconciled the institutions of the product-sector and digital industries to build their business models.

**Vignette 5.1 – Online Insurance Broker**

Insurarg is an online automobile insurance broker, operating in Argentina. It started operations as a traditional offline insurance broker and gained legitimacy in the industry due to the professional background of its founder and the consistently good performance of the business. In 2008, the sons of the founder...
introduced a digital interface, in order to offer different insurance policy quotes to its customers. This evolved into a separate business unit that spun-off from the traditional insurance broker and grew to become a major source of growth and revenue.

While the e-entrepreneurs leveraged some elements of the insurance brokers’ product-sector industry and the economic resources from their original offline business, it decided to launch a completely new and independent operation for the DS. The e-entrepreneurs’ experience of the product-sector industry allowed them to understand its institutions, and also to recognise that they needed to develop new capabilities to avoid mixing traditional functional-cognitive frameworks with the ones required to launch a DS, as one of the e-entrepreneurs explained:

We come from an insurance broker background. [We] have been in the industry for almost forty years… but there are many things that we have done with the new company that were totally unknown to us… When we launched, we had our established traditional office, but we decided to start [Insurarg] in another office. We just did not want to do the new business inside of an environment where the traditional business was done. (Insurarg)

The DS’s first product was an online interface where potential customers could request multiple quotes from different insurance providers, making a decision without having to go to a physical office. This idea challenged existing normative and functional-cognitive institutions of the product-sector industry, which prescribed that a personal interaction must take place during the sales process, and which favoured the presentation of a single quote instead of multiple options, as one of the e-entrepreneurs explained:
They all told us not to do it… that people were not going to sign on… that it was only going to attract very young people, who are the people that the insurance companies typically do not want to insure because they are riskier, or the people who cannot get insurance somewhere else because their car is too old. (Insurarg)

The e-entrepreneurs further explained that their suppliers, the insurance firms that issued the policies sold by the DS, were also entrenched in a certain way of doing things, which made them afraid of trying a new business model:

All [the core insurance firms] told us that… the model would not work on the Internet… and that we were going to create a price war. (Insurarg)

Furthermore, core firms in the product-sector industry had existing investments in physical assets that locked them into offline business models, with offices geographically positioned in relation to their target market. Thus, whether driven by a fear of losing their existing revenue streams, or because of their sunk costs, the firms in the product-sector industry were unwilling to pursue an online business model: what Geels (2014) conceptualised as lock-in mechanisms that drive firms into isomorphic behaviour.

Insurarg escaped these lock-in mechanisms of the product-sector industry regime by leveraging elements of the functional-cognitive pillar of the digital industry. The DS transformed traditional routines and capabilities by using digital technology as a variation mechanism in order to differentiate from other firms in the product-sector industry. The e-entrepreneurs merged the functional-cognitive pillars of the product and digital industry regimes, creating new technical knowledge, cognitive routines and operational processes to reconcile the practices of the product-sector industry with their new digital business model. Such hybridity was reflected in the differentiated way of managing customer
interactions, human resources, capital investment, intellectual property, infrastructure and process scalability. For example, the e-entrepreneurs realised that while customers saw value in the initial online interaction, few were able to complete a sales transaction without a degree of human interaction and advice, as one of the e-entrepreneurs explained:

In Argentina seventy per cent of the insurance policies are done through intermediaries, or agents. So there is also a culture of asking [someone for advice]... it is part of the normal behaviour... purchasing insurance online was not normal behaviour, like it is in mature economies. (Insurarg)

Therefore, the DS decided that customers who showed an interest in the web portal would be supported by an in-house call centre to complete the sale. In this way, the DS maintained the best practice of the product-sector industry by offering a consultative human interaction in support of the digital sales channel.

Hybridity also impacted on the relationship between the DS and the socio-political environment. Because Insurarg operated in a hybrid industry regime, it needed to comply with the formal-regulative institutions of both the product-sector and the digital industries. One of the e-entrepreneurs explained how their understanding of the norms and regulations of both industries allowed them not only to comply with the formal-regulative institutions, but also to increase compliance through the use of digital technologies:

We first said: “We are not going to go out of the current norms, we do not want to change the rules from a legal perspective”... We decided not to break with the structures of the insurance world or of the digital world, and we did everything within the law. We decided we were not only going to comply... but would do more than what a traditional business does... Because of technology we can keep records of all customer interactions in a way a traditional broker cannot... Now that [policy makers] are starting to explore doing changes to the regulation... we realised we are
already doing everything… and even more than what [the regulators] are planning to ask. (Insurarg)

The ability of this DS to understand the institutions of both the product and digital industry regimes, and to reconcile them in a digital business model, allowed them to create a niche in the market and grow rapidly. While the traditional insurance broker sold two hundred insurance policies in two years, Insurarg closed three hundred in a single month.

In contrast, other firms that tried to copy the business model followed by this DS often failed, because they tried to shift from the product-sector industry into the digital industry without understanding the new set of institutions specific to the digital industry; or because they were coming from the digital industry without understanding the institutions of the product-sector industry, as one of the e-entrepreneurs explained:

In a few months there were almost forty competitors very similar to us… the impact in the industry was high, because everybody wanted to do the same… one of the things that defined our leadership was that we had two very solid bases in the two things we saw as key… the digital and the insurance foundations… So, these competitors were either local, traditional insurers who wanted to get in[to] the Internet, or people from the Internet world who wanted to enter the insurance business… Their vision was a little bit at midway because they did not have the other foundation so solid. The two [worlds] are too complex and you cannot rely only on one. So, of those forty, fifty competitors who went out, today there are only two. (Insurarg)

Therefore, the evidence suggests that DSs who fail to successfully reconcile the institutions of the product and the digital industry regimes are likely to be selected out by the pressures of the environment.
Vignette 5.2 – Intelligent Banners for Online Marketing

Advertarg is a DS that developed an adaptive technology on a software-as-a-service model to substitute static content adverts in web pages for intelligent banners that display targeted advertisements based on browsing behaviours and a customer’s profile. It was founded by an e-entrepreneur who had worked in digital firms since 2000, involved in two DSs that survived the dotcom crash and became large digital firms through IPO and acquisitions. One of them became the largest Latin American e-commerce platform. During his tenure at these digital firms, he identified that e-marketers needed access to adaptive digital advertisements, and therefore, working with other partners with similar experience in the digital industry, he decided to build Advertarg.

In the process of developing the DS’s business model, the e-entrepreneur explained that they continually looked to institutions of the digital industry for identity, norms and ‘ways of doing things’:

We started [the business model] from zero, without a benchmark. We knew it was a good idea, we tried with some people, and we saw things worked well... And eventually we found some other digital companies in the world that did some similar things, but not exactly the same, but similar, which was great because it is always interesting to have someone you can compare with, and to be able to take some ideas and leverage the work already done by others. (Advertarg)

Therefore, the functional routines and cognitive frameworks brought from the digital industry were incorporated into all the DS’s business activities, from sales to customer support. This facilitated the DS’s doing business with other digital firms, such as the e-commerce platforms the e-entrepreneurs had worked
for. However, the DS eventually realised that in order to scale, it had to sell not only to digital firms, but also to other offline marketing agencies, as the e-entrepreneur explained:

At the beginning we targeted only e-commerce firms… Then we realised that this market in Latin America did not grow enough… so we did a pivot to reach the firms that wanted to place the ads: marketing agencies, public relationship firms, and media networks. (Advertarg)

This need to interact with offline firms exposed the DS to the offline marketing product-sector industry, which has its own institutions. In response, the DS adapted its sales engagements in order to attempt to reshape the existing cognitive frameworks of the product-sector industry in favour of its new digital product, as the e-entrepreneur explained:

So, we had to change certain paradigms… For example, once in a meeting with a specialist from a marketing agency, I had to explain three times the concept of what we do, for him to drop the old preconception of what a banner is and [to] buy into the concept of intelligent banners. (Advertarg)

This example shows that even in a DS created with institutions from the digital industry regime, the conceptualisation of a hybrid industry can still be useful in explaining the relationships that exist between DSs and a product-sector industry. While the DS in this example did not need to reconcile the institutions of two industry regimes in its foundation, it eventually came into contact with a product-sector industry with its own institutions that it needed to confront.

The product that resulted from the use of digital technologies in a radical new way allowed the DS to create a new market niche in which firms in the product-sector industry could not compete. To avoid direct competition, the DS
offered offline marketing agencies and media companies its product as part of the total solution these companies offer to their customers. When the firms in the product-sector industry realised that their customers valued Advertarg’s product, they willingly became a sales channel for Advertarg; and in this way, the differentiated value created by its product and its strategic decision to partner with the firms in the product-sector industry, allowed the DS to avoid confrontation with existing players and seamlessly enter the product-sector industry, as the e-entrepreneur explained:

We were always focused on building value with our service... and we did not impact anybody in a negative way; this was simply added as a new paradigm... there was a positive impact in the entire ecosystem. (Advertarg)

Finally, this example provides additional evidence for the finding that the distinct functional-cognitive frameworks of the digital industry are a main source of differentiation for DSs entering a product-sector industry; congruent with Geels’ (2014) assertion that peripheral actors find it easier to deviate from the established industry institutions and develop new technical knowledge, and therefore that core firms in the product-sector industry interested in exploring new technologies can be successfully drawn into collaboration with peripheral firms, such as the DSs consulted in this study.

During the course of the interviews, most of the e-entrepreneurs spoken to recognised that there were different industries with their own ways of doing things; however, it was apparent that not all were able to establish a clear separation between the product-sector and digital industries. While some e-entrepreneurs recognised that the online components of their business model made them
different from other firms operating in the product-sector industry, they believed that a digital industry was not easily identifiable, as this e-entrepreneur explained:

I do not know if I would affirm [the uniqueness of] the digital enterprises… So, if you think of a digital enterprise, you would also have to think of Amazon… but it was like Barnes & Noble… it just used big data and technology to grow and optimise their operation. This was something that Barnes & Noble did not see. But, it is difficult for me to separate what is a digital enterprise and what is not. (Agroarg)

This e-entrepreneur believed his DS had more in common with other players in the product-sector industry than with other DSs. E-entrepreneurs that needed to rely on non-digital elements as a part of their business activity had more difficulty in delineating the differences between a DS and a traditional start-up; with the less that the DSs relied on digital technologies, the more difficult it was for them to associate with a digital industry; as anticipated by Hull et al. (2007) in their typology based on different levels of digitalisation.

Nevertheless, most interviewees across the organisational field believed that a digital industry tying together all DSs was emerging, as this accelerator manager explained:

I literally use the term digital industry… it’s like an industry which actually has a horizontal impact in all the other industries. (Accelbra)

While the type of firms belonging to the digital industry remains vague, the interviewees associated the following types of firms to it: e-commerce, portals, digital media, digital marketing, online brokerage, online financial services, IT firms, and Internet service providers. Although incipient, the emergence of a number of industry associations incorporating DSs provides further evidence of
an emerging Latin American digital industry, as this accelerator manager proposed:

There are clusters of software enterprises… some are one hundred per cent web-based, some are internet portals which are also one hundred per cent digital… there are also others that do digital media, networks, interactivity, which are also classified as digital enterprises… And there are special clusters… one which is an association of Internet enterprises where there are enterprises one hundred per cent Latin American, or the Mexican Internet Association where there are portals, browsers, ISPs, everything related to Internet services. (Mexaccel)

The findings of this research support the notion of a digital industry regime, although its institutions are still developing. Given the common challenges that many DSs face in Latin America, and conscious of the weakness of the emerging institutions of the Latin American digital industry regimes, some e-entrepreneurs, accelerator managers and investors have become institutional entrepreneurs, interested in developing shared norms and mind-sets that enable co-operation across the organisational field, in order to help the DSs; as the following extract from an interview with an accelerator manager illustrates:

We realised [that] it was fundamental to develop the communities [of e-entrepreneurs] that existed in Mexico... We finished doing a hackathon that had a presence in sixteen cities in Mexico and that impacted hundreds of people every six weeks... It lasted for about three years. (Accelmex)

These findings are congruent with the work of Cervantes (2013), who proposes that institutional entrepreneurs contributed to the development of the Mexican Start-up ecosystem, and who provides evidence for how the digital industry regime in Latin America is in the process of developing, with the assistance of different actors in the organisational field.
5.2.4 Position of Latin American DSs as peripheral firms

Summary of key findings

- DSs can be conceptualised as peripheral firms in relation to their position in the product-sector or the digital industry.
- Core firms have the ability to build and shape the institutions of their respective industry regime.
- DSs have drawn from the institutions of the digital industry to differentiate from core firms in the product-sector industry.
- DSs’ relationships with other firms and the institutions of hybrid industry regime change as they grow and move from the periphery to the core.
- The LADSs and the Latin American organisational field can be conceptualised as peripheral in relation to their position to the core firms located in the digital industry and to the organisational field of the United States, respectively.

Table 5.4 – Summary of key findings in Section 5.2.4

As discussed in Section 3.2.2, Geels (2014) draws on neo-institutional theory to state that the strength with which institutions influence firms varies depending on their position in the organisational field. The TEF conceptualises peripheral firms as “fringe actors or new entrants for whom it is relatively easier to deviate from regime rules” (Geels, 2014; p. 266). In contrast, core firms are conceptualised as central actors with “the power to discipline other firms and shape the regime rules” (Geels; 2014; p. 266) to their advantage. Furthermore, Geels (2014) pointed out that since peripheral firms have less leverage than core firms to change the existing institutional pillars, they tend to use variation mechanisms to differentiate from core firms, which are pressured by lock-in mechanisms to conform to the existing industry regime.
5.2.4.1 The effect of position in relation to core firms in the digital industry

The evidence suggests that the relationship between core firms in the Latin American digital industry and the DSs has a positive effect on the development of the latter. Whilst there are relatively few digital firms in the Latin American digital industry that could be considered core firms, the few firms that survived the dotcom crash of the early 2000s provide the foundation of the incipient Latin American digital industry. Examples of such core firms identified during the course of the interviews include Mercado Libre, Despegar and Globant. As these firms have consolidated their operations and started expanding in the region, they have become a point of reference for new entrants and as such have acquired the power to shape the institutions of the digital industry in different ways, such as developing functional and cognitive frameworks transmitted to DSs through the human resources employed in the DSs; providing a sense of identity arising from common mind-sets and aspirations; and influencing the formal-regulative institutions. For example, as this e-entrepreneur explained, as people move from core firms to peripheral firms, the technical knowledge and competencies spread, which in turn institutionalises best practice, ways-of-thinking, and ways-of-doing things:

I think that having worked at DeRemate five months before it was launched, and then spending six years in Mercado Libre... it was like an MBA in start-ups... So, I had the experience of how to launch a start-up. (Advertarg)

In another example, this e-entrepreneur explained that e-entrepreneurs from core firms have influenced norms and practices by becoming a point of reference inspiring and helping others:
[A successful e-entrepreneur] is on the board of a [not-for-profit] ... and now he dedicates time to help other people; he invites them to participate... they get together and he advises them... He [also] assists people who are looking for investment opportunities... Here, everybody has to support and be supported. (Trainlatam)

Finally, the manager of this core firm provides an example of how core firms have engaged in the development of formal-regulative institutions:

Some emblematic firms like Mercado Libre engage [in the political environment]... [and now] you can find more interaction because of specific reforms that are taking place in network neutrality and copyright regulations... which impact the way new platforms are created and how digital firms operate. (Servglob)

Therefore, it is apparent that core firms have lowered the entry barriers for new DSs, who can now invest less in institution making and instead rely more on the emerging institutions of the digital industry that the core firms have been building. Consequently, DSs are also more dependent on the path already established by these core firms. There was also evidence to support the finding that as a DS makes the transition from a peripheral firm into a core firm in the digital industry, it has access to greater opportunities and resources to contribute to the institution making process. Several of the interviewees spoken to during this research explained that e-entrepreneurs who devised a scalable business model or who reached an exit point, either by IPO or by acquisition, usually

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4 Interviewees referred to an ‘exit’ as the vehicle through which e-entrepreneurs and investors cash-out a part or all their stake in the DS through an initial public offering in the stock market, or through acquisition by a core firm.
became more active in shaping the digital industry regime; as this e-entrepreneur explained:

One thing you can see is that the successful entrepreneurs of the original start-ups play a critical role in promoting the development of the ecosystem in a co-evolutionary form; by becoming points of reference, by becoming investors themselves, etc. (Enterparg)

The following provides an example of how a DS that is transitioning into core firm is now more engaged in supporting another DS, by providing both mentoring and access to a wide network of contacts in the organisational field:

We have had an advantage… because having the relationship with [core firm] gives me access to a bunch of things that a simple start-up would have never [have] had… I can give you an example of how we buy time in the media, because we use the same relationships that [the core firm] has. So, we have a different deal because we know how to buy from them, we use the same plan, how to do it, we simply took the playbook from [the core firm] and simply adapted it to our own reality. (Trainlatam)

Therefore, the evidence supports the TEF formulation that as firms move from the periphery to the core, they have more power to influence other firms and shape the institutions of the industry regime.

Furthermore, e-entrepreneurs identified that growing a DS from a peripheral firm into a core firm can have a multiplier effect on the rest of the organisational field, as this e-entrepreneur explained:

The best we can do as entrepreneurs is to generate success stories that give confidence to the market (Autocol).

Other interviewees concurred that every example of a DS that successfully transitions into a core firm reduces the perception of risk surrounding investors and e-entrepreneurs, by increasing the perceived probability of success for other
DSs, which in turn helps to create a critical mass for new investment funds. DSs that move into the ‘company building’ phase help government agencies to effectively showcase the benefits of their support programmes. These DSs also offer a source of local mentors to guide new investors and entrepreneurs, and in this way, successful DSs not only gain economic benefits for themselves, but also open sources of economic resources to newer DSs, consistent with the property of positive feedback of co-evolutionary systems (Lewin & Volberda, 1999).

5.2.4.2 Effect of position in relation to core firms in the product-sector industry

The relationship between DSs and core firms in the product-sector industry was found to be ambivalent. In some instances, DSs entering the product-sector industry were perceived as a threat to the status quo of core firms, who reacted with aggressive blocking tactics; however, there were also examples of collaboration between DSs and core firms in the product-sector industry; and cases where core firms simply ignored the entrance of a DS. Vignette 5.3 illustrates an instance of the first:

Vignette 5.3 – Retaliation of product-sector industry core firms to the entry of a DS

Optocol is a DS in Colombia that has built an e-commerce site specialising in graduation and contact lenses. The e-entrepreneurs who founded the DS looked at the product-sector industry of optometrists and the commercialisation of graduation lenses in Colombia, and realised that consumers had to go through
a difficult buying process that could be improved through the use of digital technology, as one of the e-entrepreneurs explained:

It was very difficult to buy [contact lenses]: they were not only very expensive, but besides it was a painful process; you had to go to the optometrist store two or three times, deal with the traffic, and sometimes they did not even have the product, because they had a very limited [range]. (Optocol)

The online portal that Optocol devised simplified the buying process for consumers, provided substantial savings, offered access to a wider portfolio of products, and offered the convenience of delivery to the consumers’ front door. Three months after launching the e-commerce portal and gaining fast traction, the DS faced resistance from core firms in the product-sector industry of optometrists. Suppliers suddenly stopped providing access to the products, negative marketing began appearing in different media outlets including social networks, and lobbying of policy makers took place to press for the introduction of regulations that would require the customer to visit an optometrist in person before a digital business could sell them contact and graduation lenses.

In response to the retaliation of the product-sector industry, the DS engaged in litigation that eventually restored their supply chain, and allowed them to stay in business. However, this legal action placed the DS at serious risk, as it absorbed a substantial amount of both time and capital that the e-entrepreneurs had not anticipated. In contrast with the DS discussed in Vignette 5.1 that successfully moved from a product-sector industry into the digital industry and reconciled the institutions of the product-sector regime into their business model,
Optocol did not plan to reconcile the existing institutions of the product-sector industry regime with those of the digital industry as part of their business model.

Some e-entrepreneurs consulted in this study mentioned that they knew of other DSs that had experienced similar negative reactions from core firms, including lobbying for regulations that acted contrary to the DS’s business model; blocking potential suppliers from establishing relationships with the DS; and negative media campaigns (of the kind that Uber has faced from cab drivers worldwide). Whilst in many of these instances the DSs may have not been able to prevent such negative reactions, they arguably could have least anticipated such possible reactions and accounted for them accordingly in their financial and business models; had they considered the nature of their relationships with the core firms and institutions of the product-sector industry regime, as acknowledged by the Optocol e-entrepreneur:

We trusted in our analysis, in the current regulation and that there would not be any bad faith, so we were very passive… But if we had been more pro-active, I think that the results would have suddenly been different. I think that if I went back, what I would do [from] the first moment would be to enter and speak with the regulators, as well as with the anti-trust agencies and I would have tried to direct the course [of events]. (Optocol)

The use of a TEF could have helped Optocol to identify the lock-in mechanisms that core firms in the product-sector industry were subject to, and which made them perceive Optocol’s entrance as a threat that they had to fight “to defend their interests and sunk investments… [using] the whole spectrum of [externally-oriented] strategies” (Geels, 2014; p. 273). Modelling the product-sector industry regime would have enabled the DS to better understand the
When considering the collaboration of DSs and core firms in the product-sector industry, the interviews with e-entrepreneurs and accelerator managers revealed two main practices: mentoring and the acquisition of innovation.

Executives of core firms in product-sector industries often participated in mentoring programmes organised by accelerators in support of e-entrepreneurs, as a way to “give back to the community” (Accelarg). In such programmes, the executives shared what they believed was the “right way of doing things”, as this accelerator manager explained:

We have more than fifty mentors around the world... We have executives from... like [Multinational Firm A], [Multinational Firm B], [Multinational Firm C], [Multinational Firm D]... They impregnate these boys with their knowledge of the corporate market and the formality they have to develop... from the simplest things: how to write an e-mail, to represent their company. (Accelarg)

By participating in such mentoring programmes, and through their own experience, e-entrepreneurs discovered ways to incorporate the technical and functional capabilities of the product-sector industries into their digital business models. While not all e-entrepreneurs had previous experience in a product-sector industry, the vast majority did. Those that had such experience had an advantage when it came to reconciling the functional-cognitive frameworks of the product-sector industry with those of the digital industry (as exemplified in Vignette 5.1). However, those who had no direct experience in the product-sector industries claimed to have benefited from the opportunity to interact with other executives based in the product-sector industry (regardless of them being
mentors, investors or suppliers), which further helped them to understand the functional routines of traditional businesses.

Another form of collaboration between core firms in the product-sector industry and DSs was the acquisition of innovation. This study identified a number of examples of core firms that acquired innovation developed by DSs, as an alternative to developing innovation in-house. The DS discussed in Vignette 5.2 illustrates how core firms in the media and advertisement industry leveraged the solutions devised by the DS to open up access to a new market.

For similar reasons, all accelerator managers mentioned examples of core firms in the product-sector industry that had either acquired DSs or incorporated their products into their own portfolio. As an illustration of this, a multinational telecommunications service provider created Accelatam, one of the few (if not the only) accelerators with operations covering more than six countries in Latin America, including the four that are the focus of this study. Through this accelerator, the service provider has created an alternative source of open innovation that can build upon its traditional business, as this accelerator manager explained:

Then, as long as there is a particular interest from [the service provider] to innovate with these companies, there will be a much faster approximation and possibilities to do businesses with the [service provider] as customer, an ally, or a partner. (Accelatam)

Such behaviour from core firms is consistent with what Geels (2014) anticipated in the third stage of the strategic reorientation process. When core firms realise that pressures from the environment affect their performance in a way that cannot be addressed through incremental operational improvements,
they look for ways to undertake more drastic structural change, and engage in a more ‘distant search’ to acquire new knowledge and alternative technologies outside of the firm, which may drive them “into collaborations with peripheral firms or new entrants if these have developed relevant technical knowledge” (Geels, 2014; p. 271).

Therefore, the findings from this research support the assertion that the relationship with core firms in the product-sector industry may have both positive and negative effects on the DSs. The potential negative effects could result from the threat that the DSs’ business model imposes on the performance of core firms and the institutions of the product-sector industry regime; whilst the potential positive effects could result from collaboration with core industries, whether driven by altruistic or economic reasons.

5.2.4.3 Effect of position in relation to the organisational field of the United States of America

The DSs’ organisational field is conceptualised in Section 5.2.2 as nested in three geographical levels, where the institutions of the higher levels influence the institutions of the lower levels. At the multinational level, the study found that the organisational field of the United States of America has a similar effect on the Latin American national level organisational fields as the digital industry core firms have on DSs, transmitting functional and cognitive frameworks, providing a common sense of identity, and promoting similar regulations.

The institutions of the United States digital industry regime have had a significant effect on the development of institutions of the Latin American digital
industry. A clear example of this is provided by the functional-cognitive framework of LSM, which both accelerators and government programmes have promoted with the assumption that because it has been widely disseminated in the United States, it will have a similarly positive effect on the development of the LADSs. Most e-entrepreneurs agree with this sentiment, and LSM has been widely adopted, as illustrated by this e-entrepreneur of a DS that is transitioning into a core firm, who explained how adopting mind-sets and functional-cognitive frameworks developed in the United States has helped him succeed:

I have spent enough time on... those principles that make you be able to build a successful start-up. I think that in Silicon Valley people [have] a lingo, and they have a way to build enterprises which is very well known; it is like a 'social know-how' that lets you build a successful company, the concept of Lean Start-up, of iterations, and of a minimum viable product. (Langlatam)

Accelerators have played a major role in this dissemination of functional-cognitive institutions from the United States into Latin America. Much of the support from accelerators is focused on educating e-entrepreneurs and building business practices following LSM. It was noticeable in the interviews that all the DSs that went through an acceleration process, followed similar routines and applied technologies in similar ways. The following extracts of interviews with two accelerator managers illustrate how they incorporated similar frameworks as part of their acceleration programmes:

We have training, coaching, and mentoring programmes... In the coaching part, we work with the Business Model Canvas. We follow each one of the canvasses of each [DS] since they have a minimum viable product and they start the first product tests. (Accelarg)

We have two rules: One is, if you follow the methodology and achieve a reasonable growth... you are part of our network... If you don’t follow
the methodology, which is Lean Start-up, act on our feedback, you connect with the mentors… and if you don’t grow more than twenty five per cent a year, you are out. (Accelbra)

These examples support the finding that the functional-cognitive frameworks developed in the United States, such as LSM, are becoming institutionalised as the industry standard in the digital industry of Latin America. Accelerators appear to have an economic interest in promoting these models, since their own value proposition relies on coaching DSs to adopt these best practices in order to reduce the time to market and to increase the probability of success. In this way, accelerators are building lock-in mechanisms that (arguably) impose restrictions on alternative methods of innovation and push DSs to adopt isomorphic behaviours. Such evidence reveals that as the digital industry matures, lock-in mechanisms emerge in the form of shared mind-sets that could potentially build up to “cognitive inertia” (Geels, 2014; p. 267).

Another way in which DSs drew from the functional-cognitive pillar of the United States industry regime was through the replication and adaptation of business models, with successful companies from the United States often referred to by interviewees as examples to be followed by LADSs. As one investor explained, even the core firms of the Latin American digital industry often based their own business models on those of the core firms of the United States digital industry:

None of the Latin American firms with market cap of more than five hundred million dollars invented something new… they imitated American firms. For example, Mercadolibre.com was based on eBay, Despegar.com was based on Orbitz… even the new ones that are growing Restorando is based on Open Table, Best City is like Amazon. (Ventarg)
Several DSs in the study acknowledged that they had been influenced by the business model of a core firm in the digital industry of the United States when devising their own business model, as this e-entrepreneur explained:

I was inspired by the business model of TrueCar and made some adaptations for Latin America and I am trying to launch it in Latin America. (Affiliarg)

It is therefore clear that the core firms of the United States have been a common point of reference in Latin America, both for core firms and DSs alike, who have assimilated their functional and cognitive frameworks. This is congruent with Katz (2015) who found that the largest Latin American portals were based on a business model developed in the United States.

Furthermore, government support programmes, accelerators and not-for-profits have been channels for the transmission of identity and values between the United States and Latin America. For example, the programmes offered by local governments to support e-entrepreneurs often demand the adoption of certain behaviours, vocabulary and even ways of dressing that reflect those of the United States, as this e-entrepreneur explained:

I was last week in the [programme] and a guy arrived and started talking about the clothing you have to use as an entrepreneur... He said that you couldn’t wear a coat and a tie because you would be seen as if you were coming from a Bank, that you had to wear a t-shirt, a coat and sneakers. (Finanmex)

Accelerators also contribute to the institutionalisation of the mind-sets and values of the United States, by describing its organisational field in an almost utopian manner, as revealed in the comments of this Accelerator Manager:
I always tell [e-entrepreneurs] “you should move to the United States – now!” because the ecosystem of the United States is ready to support innovation and disruptive products, especially at ‘The Valley’. (Accelbra)

Multinational not-for-profit organisations have also had a strong impact in building the institutions of the Latin American digital industry. For example, two of the direct observations undertaken in this study were at start-up weekend events, organised in Mexico and Colombia by the local chapters of the global not-for-profit organisation UpGlobal. Each event, which hosts between fifty and two hundred e-entrepreneurs, offers hands-on training in programming techniques, and entrepreneurial skills based on LSM. By sharing their experiences, the e-entrepreneurs also acquire a sense of common identity and learn the norms of behaviour in the digital industry that encourage collaboration among e-entrepreneurs.

UpGlobal estimates that a third of the DSs created during these events lasts at least three months, and that 80 per cent of the participants continue to engage in the organisational field in some way after this (http://manizales.startupweekend.org/). By participating directly in these two events, the researcher gained direct experience of the impact that the mind-sets, norms and functional-cognitive institutions developed in the United States have had in the development of the Latin American digital industry regime. For example, the presenters referred very often to organisations based in the United States, and associated LSM to the successful development of new digital business models.
Moreover, the e-entrepreneurs to which the research had access during the two start-up weekends were already familiar with, or were exposed during the event to publications and discussion forums edited and managed by organisations in the United States. In this way, the media outlets based in the United States act as another strong channel for the dissemination of institutions into Latin America. For example, the majority of e-entrepreneurs and accelerator managers mentioned (at least once) the role of both HackersNews and TechCrunch as important sources of information, to provide a shared understanding of the accepted ways of doing things; along with the sense of belonging to a wider multinational community of e-entrepreneurs.

Other actors have also acted as a channel to replicate the formal-regulative institutions of the United Stated in Latin America. Such an example was provided by Servglob, the Latin American branch of a core digital firm based in the United States, which is actively engaged in the promotion of a culture of entrepreneurship in public policies, and which it considers favourable to the development of e-entrepreneurship in other countries, as illustrated by the manager of this firm:

Brazil passed a law called the Internet Civil Framework this year... four years ago [Servglob] was one of the few enterprises that got openly involved in the [political] debate, and just little by little you could see all the other Global Digital Firms with presence in Brazil joining. (Servglob)

In this way, whether via direct participation in the political discourse, or through partnerships with other actors in the Latin American organisational field, core actors in the United States organisational field have contributed to what Ritzer & Dean (2015) referred to as convergence of ‘cultural and political forms’,
which in this example resulted in the development of similar formal-regulative institutions (i.e. regulation on e-commerce, copyright and network neutrality) in both the Latin American and United States digital industry regimes.

Therefore, the findings justify the conceptualisation of the Latin American organisational field as peripheral to that of the United States. Through channels such as the accelerators, core firms, not-for-profits, and the media, the institutions of the United States digital industry regime exert strong isomorphic pressures on the Latin American digital industry; to the point where the majority of the interviewees spoken to in this study regarded the United States organisational field as the role model to be followed; and illustrating that the Latin American digital industry regime has been an institution taker in relation to the United States, and consequently that LADSs are not only path dependent on Latin American core firms, but also on those of the United States.

Such findings seem to support the conclusion from others that the world is becoming ‘flat’ (Freidman, 2005; Ritzer & Dean, 2015). As Ritzer & Dean (2015) explained, in the globalisation process “the cultures of the world’s most powerful societies (most notably the US) flow around the world much more readily than the cultures of weak and marginal societies” (Ritzer & Dean, 2015; p. 244). However, such a perspective risks making a gross oversimplification of the reality faced by many DSs in emerging economies. As discussed in Section 5.2.2, this study found evidence that whilst there is a strong influence from the United States, not all business models are a simple replication of a preceding model, with even those that are replicated requiring adaptation in order to be successful in their local environment.
Moreover, not all DSs are unconditionally adopting US frameworks, with a number of DSs instead starting to take different approaches; which can be described as variation mechanisms, that depart from the emerging functional-cognitive institutions of the digital industry regime. The following is an example of an e-entrepreneur who consciously chose not to conform to the “right way of doing things” that accelerators prescribed:

I feel that many people on the side of the accelerators grabbed [LSM] and transformed it into a business for themselves, to get money from the entrepreneurs…. and that instead of selling… [some e-entrepreneurs] base their business on the theory…and lose time… instead of winning customers… Mark Zuckerberg didn’t care what the investors thought about him… he didn’t use any method. Steve Jobs didn’t use any method either. (Finanmex)

This example illustrates that some e-entrepreneurs are not simply accepting the frameworks coming from the United States, but are instead attempting to find their own way of doing things. Such a response may have evolved from a realisation that such frameworks assume an institutional environment that differs from those faced by DSs based outside of the United States. Isenberg (2011) has already raised the concern that the development of entrepreneurial ecosystems favourable to DSs in emerging economies must take into account the difference in institutional environments; and Chapter 6 responds to Isenberg’s concerns in more detail, discussing how some of the functional-cognitive frameworks developed in the United States can be adapted to allow for the specific characteristics of the Latin American environment.
5.2.5 Emerging endogenous institutions of the digital industry

Summary of key findings

- There was evidence of either internally-oriented (identity and values) or externally-oriented (mission) endogenous normative institutions.
- Recently created industry associations have acted as a vehicle for the institutionalisation of the Latin American DS digital industry regime.
- A set of values built upon norms of cooperation, altruism and concern for the development of the broader organisational field has become institutionalised.
- There was evidence of a shared industry mission that identified DSs as agents of social change, knowledge creation and economic prosperity.

Table 5.5 – Summary of key findings in Section 5.2.5

As discussed in the previous section, Latin America has been heavily influenced by the organisational field in the United States. Despite this, most DSs in this study saw themselves as belonging to group distinct from the digital industry of the United States, largely due to the different institutional environment in which they operate; and consequently, during the first phase of the research, this study found that a number of Latin American e-entrepreneurs were building their own small support groups, with the express purpose of sharing experiences, identifying common strategies to respond to pressures from the environment, and to develop a sense of identity, as this e-entrepreneur explained:

At one moment, I really felt like I needed a kind of support that I wasn’t getting from anyone, not from the government programmes, nor from the ecosystem, nothing. Then, I identified some of my peers and we got together and formed a group... We are eleven entrepreneurs... we get together to help each other... it helped me to feel more supported, not to feel so crazy, and to realise that there are other people like me who are in the same situation. (Affiliarg)
These informal support groups evolved fairly rapidly, and thus by the time the third phase of the research took place, some e-entrepreneurs were already organising formal industry associations to better support the development of their common interests, as this e-entrepreneur explained:

We started in Chile with twenty people... and nowadays they are more than eighteen thousand members... Then we said: “let’s replicate this in the rest of Latin America”. That is how we organised ASEA [Association of Entrepreneurs in Argentina] here in Argentina. A couple of months ago we also organised in Mexico ASEM [Association of Entrepreneurs in Mexico], with the same purpose, and we are also going to launch it in Colombia next month. The idea is that these become organisations that generate in some way an influence either in the industry, or in the political, economic and social sectors. (Investarg)

Such associations have allowed e-entrepreneurs to build relationships amongst themselves, based on shared mind-sets, goals and challenges from the environment, and therefore, industry associations have become a channel for building the endogenous institutions of the Latin American digital industry regime that include a common identity built upon norms of cooperation, altruism and a concern for the development of the broader organisational field. The following extracts of an interview with a volunteer in a not-for-profit illustrates this desire to cooperate and broker relationships among different actors in the organisational field:

The ones who distance themselves from the others, become isolated; and the one that is isolated does not innovate; and the one who does not innovate dies... Collaboration is in [the DSs’] best interest... Those people who become brokers are the people who innovate, the same as the enterprises that do brokerage, they innovate. The brokerage is constant; it is like our way of life. (Enterparg)

By acting in this way, e-entrepreneurs have created an industry norm of inclusion, believing it to be in their self-interest. Other actors in the organisational
field, reinforce this with entrepreneurs also receiving help from institutions such as local government, international not-for-profits and other DSs. Even the funding received from private investors is widely regarded as something to be grateful for, because the DSs concerned were ‘chosen’. An awareness of being ‘helped’ has engendered an altruistic character, with firms who have received support feeling compelled to then support others. This is congruent with the findings of Cervantes & Nardi (2012), who found that the communities of e-entrepreneurs that were created during the Start-up weekends helped to develop a culture of innovation based on trust and sharing.

Such values build upon the belief that helping others has a positive impact on oneself, and which in turn builds a sense of common good, and of interconnectedness among the different actors in the field. The comments from this e-entrepreneur indicate e-entrepreneurs’ common willingness to assist one another by sharing what they have learned in order to facilitate the path for those following:

Of course, the community of entrepreneurs is like that. Actually, I received help from many people, and I did not even have to ask for it. Why? I do not know, but these are the characteristics of the people like us. Simply, we received help, so we help others too, because if the community of entrepreneurs grows, we win. There would be more investors, more money available, and more innovation… and we are doing something good for the country. (Autocol)

This shared belief that the success of others would in some way have a positive impact on their own success resulted in the creation of a self-reinforcing norm of collaboration and altruism, with e-entrepreneurs who received help then helping others and expecting that those who receive their help would do the same.
for others. However, despite such laudable intentions, some e-entrepreneurs revealed that it was not always possible to collaborate in this way, and that the notion of all e-entrepreneurs collaborating with each other was not realistic, as this e-entrepreneur explained:

[There] is always going to be competition… let’s see, we were in Bogota last week because we were finalists of the Open Talent competition… and we got along well with all the participants and we went out to have lunch together, but at the moment of entering the [room], we were competing; we are always competing to see who is going to [gain more] attention from the venture capital funds, from the angel investors, from whomever. (Finanmex)

Therefore, as this example illustrates, the norm of collaboration has some limits, especially where DSs are competing for limited resources.

However, in contrast to what happens among firms in a product-sector industry, where all compete for the same customers, the hybridity of the DS industry regime enables cooperative behaviour, because DSs and core firms in the digital industry are often located in different product-sector industries, and are thus competing for different sets of customers. Core digital firms can therefore support other DSs, because sharing their knowledge and resources does not pose an immediate risk to their own financial performance. On the contrary, supporting other DSs often helps core digital firms to strengthen their own positions, because DSs can grow by leveraging the core digital firms' platform, as the case presented by this accelerator manager illustrates:

We have a co-investment agreement with [Core Firm]… [It] built an investment fund… to invest in enterprises of technology [to] develop their products on [its] platform… This ends up helping both of them. (Accelatam)
This type of collaboration between core digital firms and DSs was common across the countries being investigated, and is consistent with the work of Nambisan & Baron (2013), who wrote about the leadership role that some firms take in creating an innovation ecosystem with other start-ups, building new products around the lead firm’s platform. In this study, when core firms in the digital industry invested in other DSs, they reinforced the norm of cooperation among firms in the digital industry by establishing a partnership relationship between peripheral and core firms.

In addition to endogenous institutions such as identity and norms of cooperation that are internally-oriented to the digital industry regime, and which encourage DSs to adopt certain behaviours in relation to other firms located in the same digital industry, this research has also uncovered evidence of an emerging externally-oriented endogenous institution in the form of a shared mission. This institution is endogenous because it is also specific to the digital industry, but is external in the sense that it influences the behaviour of DSs outside of the digital industry regime. Many DSs expressed that their mission was to have a positive social and economic impact in the Latin American countries in which they operate, with e-entrepreneurs often believing that through their interactions with other actors in the organisational field and in wider society, they could become agents of social change, knowledge creation and economic prosperity, as revealed by this e-entrepreneur:

The great change in Latin America is not going to come from the politicians, nor from the large enterprises, but from the civil society and particularly from the entrepreneurs… there is a tsunami that is coming, that is going to change radically many cultural and social [institutions]; it
seems to me that the role of the digital enterprises and of the entrepreneurs is critical. (Affiliarg)

This mission was shared with other actors in the organisational field. For example, one accelerator showed an awareness of the social impact they have on the communities in which they operate, by up-skilling entrepreneurs and disseminating valuable information regarding the needs of DSs to government agencies, universities and investors. This accelerator manager explained that while accelerators have a profit orientation, they also share a motivation to work to improve the overall organisational field:

I think that our work is one, as we say, it is a super profit oriented work, but it has much of a social part as well. Everything we are doing has to do with development of the ecosystem. I am very proud of feeling it and saying it and that somehow we are transforming things, we are an agent of change. (Accelarg)

Thus, this study shows that accelerators in Latin America believe that they are helping to build businesses that have a positive impact on their local communities and which may not have been viable without the support that they provide.

The aim shared by DSs and accelerators was to become vehicles of socio-economic development, with an impact transcending individual firms. E-entrepreneurs had varied ideas about how to achieve this positive impact in their environment. For example, some expressed a wish to raise consumers' expectations, by demonstrating that digital technologies can simplify processes and offer a more efficient alternative way of doing things than Latin American consumers are used to. These e-entrepreneurs believe that when consumers are exposed to digital services and the Internet, they demand greater efficiency and
transparency in other forms of social interaction, in the services provided by
traditional offline firms, and from services provided by the government. E-
entrepreneurs also believe that they make an economic contribution to society by
creating new, lucrative sources of employment. Some of the e-entrepreneurs,
accelerator managers and academics spoken to during the course of this
research also mentioned that, whilst in the past students graduating from
universities largely sought to secure jobs in large corporations; more young
people are now willing to become e-entrepreneurs or work for a DS instead,
having been inspired by the highly publicised success stories surrounding the
industry.

Finally, as discussed in Section 3.2.2, the TEF proposes that within the
formal-regulative pillar there are endogenous institutions “enacted by industry
associations and professional organisations which articulate and implement
guidelines or standards for industry members” (Geels, 2014; p. 267); and also
exogenous institutions related to “regulations and policies (i.e. subsidies,
intellectual property laws, R&D programs)... imposed by policymakers and
governmental agencies” (ibid.). This study reveals the influence that exogenous
institutions have had on the development of the DSs and on the organisational
field as a whole (which will be discussed further in Section 5.4.1); and on the role
that the digital industry associations have had in shaping the exogenous formal-
regulative institutions to engender improved conditions for the DSs, as the
comments of this e-entrepreneur illustrate:

The [Chilean Association of Entrepreneurs] is now fighting for a new
fiscal reform... for which fifteen thousand entrepreneurs got together...
We are doing the same in Argentina... we want to start exerting a
pressure over the political sector to say: “We are entrepreneurs, we are creating enterprises in Argentina, we are under this environment, we are forty thousand, we represent such an amount of jobs, such an amount of GDP, and such a number of start-ups. We export to so many countries… so, start to do something for us.” (Affiliarg)

Despite this assertion, no evidence was found of formal-regulative endogenous institutions, which may be partially explained by the relative newness of the digital industry associations, and partially because the DSs have been influenced by the standards set by other associations, located outside of Latin American. For example, in two separate interviews, the e-entrepreneurs made reference to consulting the guidelines published by the Digital Analytics Association in the United States, and the Digital Marketing Association in the United Kingdom, respectively.

5.3 The Economic Environment of Latin American DSs

Summary of key findings

- Latin American DSs face market readiness challenges congruent with the extant literature.
- The properties of the Latin American economic environment expose DSs to particular challenges in obtaining funding across all stages of development.
- Some DSs were able to circumvent such challenges by leveraging the multi-levelness of the organisational field.
- Core firms and accelerators acted as institutional intermediaries for DSs, in order to facilitate access to investors.

Table 5.6 – Summary of key findings in Section 5.3

Section 3.2.3 discussed how DSs engage with other actors in the economic environment when undertaking economic transactions, with the aim of creating economic value. This study found that, because of their digital properties and because of the characteristics of the Latin American economic environment,
the LADSs faced unique institutional pressures arising from their relationships with customers and investors, as well as emanating from macroeconomic factors.

5.3.1 Customers

The e-entrepreneurs, accelerators and investors interviewed in this research agreed that Latin America is potentially a large market, consisting of an underserved customer base that over time may offer a sizable business opportunity for LADSs. They also expected the Latin American market to expand as a result of continuous growth in both the population and ICT penetration, as this accelerator manager explained:

There is [an] opportunity to make technology-based businesses in Latin America... For example, in the United States retail sales online are only eight per cent of the total retail sales. In Latin America, we have not even reached three per cent. (Accelatam)

Whilst this expectation is supported by several studies (Caride, 2016; ECLAC, 2013; Katz, 2015), the same accelerator manager questioned whether consumers were ready to engage in online transactions, in order to support DSs’ growth with high scalability:

There are [business] models with the hypothesis that they are going to work in the future, but [at the] moment Latin America is not prepared to absorb that solution... the use of mobile capabilities, the use of Internet, or the use of e-commerce through cell phones, it does not have enough penetration to generate a critical mass, so there are projects that do not generate traction and that do not work at the end. (Accelatam)

This research largely supports the findings of the extant literature in regard to the challenges that firms face in achieving the adoption of e-commerce practises in emerging economies, due to limited digital literacy from consumers,
poor infrastructure, and cultural elements, such as trust (García-Murillo, 2004; Martinez & Williams, 2010; Pires, Stanton & Salavrakos, 2010; Travica, 2002).

5.3.2 Investors

A key concern shared by the e-entrepreneurs in this study was the ability to gain the necessary support from investors during all stages of their businesses’ development. Securing both the availability and continuity of funding for DSs was mentioned by almost all of the interviewees as crucial to the continuous growth of the Latin American organisational field, as the comments of this e-entrepreneur reveal:

Nowadays the ability to gain access to capital for a start-up like mine is 50 per cent of the probability of success of the project… 50 per cent of the probability of success depends on our getting the capital. (Affiliarg)

Figure 5.3 shows how the sources of funding available to the DSs varied depending on their stage of development.

![Figure 5.3 – Sources of funding by stage of development](image)

The initial funding available in the customer discovery stage to take a DS from a business idea to a Minimum Viable Product (MVP) was provided by the e-entrepreneurs themselves (boot-strapping) or by an angel investor. In all cases,
such angel investors were related to the e-entrepreneur, or were their close friends. Once they had built an MVP, or at the very least, a clear concept of it, DSs could then apply for grants from government or not-for-profit support programmes. In contrast with angel or seed investments, such grants were offered without taking equity in the DS. At the customer validation stage seed investors provided the first formal round of funding in exchange for equity, to support the early stage of development and to allow the DS to move from an MVP to a tested business model showing potential to scale. The more experienced and affluent individual investors, accelerators, or company builders usually provided seed investment. Another instrument of funding at the early stage was the issuing of convertible debt, which provided DSs with cash in the form a loan, with the option to be converted into equity. After a DS had developed a scalable business model it was then considered to be ready for possible venture capital investment. This round of institutional investment took a larger share of the DSs’ equity, and provided funding for the growth stage. DSs and investors mentioned that core firms, company builders and bank loans could also offer alternative means of funding when transitioning from the customer creation to the company building stage.

Whilst the majority of e-entrepreneurs considered angel and seed funding to be relatively accessible, they often struggled at the point of transitioning from an early to a growth stage, as this e-entrepreneur explained:

In Latin America, there is interest of a lot of people in supporting enterprises [at the] early stage, but there are very few resources, either from investors or companies willing to acquire other smaller enterprises, available to connect these stages, to go between the early stage and the growth capital, or the venture capital. (Databra)
However, contrary to the expressed perception from e-entrepreneurs of a lack of capital to support the growth of DSs, the interviews with investors revealed that the availability of capital is not the main problem facing DSs in Latin America. Two possible explanations were identified for the perceived gap in funding gap; one specific to the Latin American formal-regulative institutions, and the other related to the digital properties of the DSs.

The first issue identified during the course of this research was that most investors in Latin America do not consider DSs as an alternative viable investment. Investors and e-entrepreneurs justified this shared belief among Latin American investors as a consequence of institutional constraints, such as complex financial regulations, and the weakness of laws protecting against bankruptcy, which could potentially leave investors exposed to liabilities, as this investor explained:

Investors have such a giant liability. People can come and sue and take their house; because, as a stockholder of a company you may need to respond to the [DS’s] obligations with your personal property. And with such a high firm mortality rate in the Internet industry, suddenly an angry customer who is not in his right mind can take all from you. (Fundarg)

It was therefore apparent that investors’ willingness to invest in DSs was affected by the presence of inappropriate fiscal laws and financial regulations, offering empirical evidence of how the formal-regulative institutions at a societal level influenced the economic environment and constrained DSs’ ability to obtain funding.

The second issue identified is related to both the Latin American environment and the digital property of the DSs. Both investors and e-
entrepreneurs suggested that there is a general lack of understanding from the investor community as to how to best evaluate the performance of and risks associated with DSs. The comments of this investment fund manager illustrate how Latin American investors lack a common framework to evaluate DSs:

Investing in enterprises operating in the Internet context is a very risky bet…we are not presenting these kind of investments [to our clients] at the moment, because we do not understand the risks well. We are [at] the stage of trying to understand… what the risks of these enterprises are. (Argfund)

Therefore, the specific properties of DSs that are a source of differentiation from traditional firms also become a challenge when trying to obtain funding from investors that have no experience of investing in digital firms. Some investors and accelerators mentioned how, in the United States, the investor community could draw upon the lessons learned from previous investments in order to guide the valuation of new DSs; however, since the development of the Latin American organisational field is relatively new, the scarcity of success stories and the limited experience of investors contributes to the difficulty in evaluating new DSs; as these two examples of an e-entrepreneur and an Accelerator manager illustrate:

Because there have not been many cases in Colombia of investments in start-ups, the investors do not know how to [value] a company. But if you try to value the company with a model like the ones they use in Silicon Valley, it does not work, because our reality is different. If you try to value it using cash flow, then you will sacrifice my potential [for] growth. Hence valuing a start-up is something very complex. (Autocol)

The investors here invest their money in real estate, and they tell you: “to invest money in a project like yours, I’d better wait until it is more mature”. And even in the venture capital funds… I am asking for two hundred fifty thousand or one hundred thousand… and they say: “How much is your revenue per month? No, come back in six months”. (Mexaccel)
Such examples show how DSs have to overcome the tendency of Latin American investors to use traditional methods of financial valuation, based on revenues and cash-flow, rather than alternative methods better suited to valuing DSs, such as the team, the business model, user base growth, user profile, traffic patterns, and exit options (Flanc, 2014; Rasche, 2013). For example, investors in more mature environments, such as in the United States, are used to utilising methods that assess the potential for future monetisation based on the acquisitions of similar companies, rather than a traditional cash flow analysis (Ge, Mahoney & Mahoney, 2005).

Notwithstanding such challenges, more investors are slowly accepting DSs as alternative forms of investment with the potential for attractive returns, as this investment fund manager explained:

> Despite the risks they represent, [DSs] start to look more attractive than to keep investing in purely financial assets. (Argfund)

This increasing openness from some investors is the result of efforts from DSs and other actors in the organisational field interested in increasing the funds available to LADSs (for example, accelerators, core firms and government programmes). This study found that accelerators are playing an increasingly important role as intermediaries, to facilitate the flow of funds towards DSs, whilst also acting as minority investors, and as such, they play an important role in both the valuation process of the DSs, and in devising an exit strategy, allowing them to capitalise on their investment. Accelerators also offer a mechanism for individual investors to participate in accelerator managed funds, in order to
spread the investment risk across a larger portfolio of DSs, and increasing the odds of obtaining a better return, as this accelerator manager explained:

An investor with $25,000 dollars and an account of $50,000 or $150,000 or $1,000,000 dollars is participating in a portfolio of 300 companies, with which he is going to do well with at least some of them, [and is] not placing all of his money in a single company. (Accelarg)

Furthermore, accelerators attempt to have different initiatives available to educate potential investors and to improve their understanding of the DSs’ business models, funding requirements and potential returns. Most DSs, accelerators and investors interviewed in this study recognised that such efforts have garnered positive results for both DSs and investors alike.

Similarly, a number of e-entrepreneurs revealed that they had been able to secure funding thanks to their relationships with core firms, as this e-entrepreneur explained:

All of us want to be blessed by [the successful entrepreneurs], because they have more direct access to Silicon Valley. If I go to see [one of them] and he says: “Yes... I am interested in [your DS]”, he can help you to get the capital... Let´s think about it in this way... Do you prefer to invest it in [someone] who you don´t know yet? Or do you prefer to invest with an entrepreneur who already did this for ten years and was successful? (Affiliarg)

This example illustrates how partnerships with a core firm may help DSs to build legitimacy in the organisational field, making them look more attractive to potential investors.

While funding for LADSs has gradually been improving, not all DSs were able to secure the funding necessary to successfully grow within the Latin American economic environment; and consequently, a number of e-
entrepreneurs sought to overcome the challenge of finding investors in Latin America by looking for alternative funding in the United States. However, this proved a difficult task, as foreign investors are used to having close and constant access to the start-ups they support, and were thus hesitant to invest in DSs operating in Latin America; not only because of the geographical distances involved, but also because they were unable to appreciate the potential offered by business models designed to address the local needs of the Latin American market, as this e-entrepreneur explained:

We had to raise a lot of money… so we first approached a family from Central America… they financed the first round… we later suffered and needed additional investment… We benefited from the interest that a [United States] VC had in Latin America… [but] for [foreign investors] to invest in Latin America was usually something crazy, in Silicon Valley they want to be close to the start-ups, to be able to go and see the guy doing the Power Point and working in his garage. (Langlatam)

In this instance, the DS was able to gain direct access to funding from a venture capital fund in the United States due to the multi-levelness of the organisational field, with the Latin American DS and the VC based in the United States able to engage because both were familiar with the functional-cognitive institutions, enabling them to discuss the digital business model and financial valuation in similar terms. This example illustrates how the Latin American organisational field not only draws inspiration from the institutions of the United States, but that it also receives financial resources from it, providing additional support to the core-periphery relationship between the United States and Latin America.
5.3.3 Macroeconomic factors

The research found evidence for how relationships between LADSs and customers, investors, and suppliers are influenced by macroeconomic factors, particularly demographics and economic instability.

The growth of the middle class in Latin America has enabled LADSs to develop new markets. As an example, Trainlatam developed a digital business model to deliver online educational services, targeting the growing middle class in Brazil and Colombia, where macroeconomic conditions are fuelling the need for flexible access to technical education:

There are big tendencies at a world level, but in Latin America they are more accentuated... As the middle class grows... the education demand grows even more... [On] average, ninety per cent of people in Latin America graduate from high school but only thirty-five or forty per cent go to the next level of education, the rest leave for socio-economic reasons... So, the convenience that technology provides to study at your own pace has created an opportunity to go beyond high school. (Trainlatam)

However, whilst LADSs may have benefited from some favourable demographic trends, they remain more constrained than DSs located in more mature economies, where the middle class not only represents a larger percentage of the population (OECD, 2011), but also has a higher income per capita, resulting in a lower level of digitisation (Katz, Koutroumpis, & Callorda, 2013).

The macroeconomic instability of Latin American countries has also affected DSs relationships with investors. When Latin American countries enjoyed political stability and macroeconomic indicators were regarded as favourable for a sustained period, due to the boom in the price of commodities,
investors became more attracted to investing in high-growth, longer term projects (Block & Sandner, 2009), which facilitated the raising of capital for several DSs in the region, as this e-entrepreneur explained:

I think that the external factors have a very big influence in our story, it was very difficult to raise capital at the beginning, then it was very easy once the [Latin American] region was in vogue. (Langlatam)

However, when the same macroeconomic factors started to deteriorate as a result of the concomitant global fall in the price of commodities, the flow of investment capital into Latin America weakened, making it more difficult to fund new DSs, in a similar way to that anticipated by Block & Sandner (2009) in the United States after the 2008 financial crisis. This global trend, coupled with the more recent political instability in countries such as Brazil and Argentina, has substantially reduced the availability of funding, as this accelerator manager explained:

Brazil will be changing President, I hope, but both options are very bad for Brazil from an economic point of view... so that means that we are going to be in a recession, or we are going to be flat for the next four years... I know for sure that there is not going to be a lot of foreign investors putting money here, at least not at a premium price... we are not a hot market anymore. Because of that... I had to change my whole strategy. Now I am only going to invest in companies that can achieve break-even fast, because they will need to survive for four years. (Accelbra)

Therefore, greater economic and political instability reduced the tolerance of risk, and drove investors and other economic agents to seek higher returns and shorter-term results. The same economic instability also resulted in higher fluctuations in currency exchange values, which imposed challenges on the relationships between some DSs and their investors and suppliers. From a capital
flow perspective, this e-entrepreneur explained how instability in exchange rates made it harder for foreign investors to evaluate their potential returns, because they were investing in US Dollars, with LADSs’ revenue made up of local currency:

I think the region [has] reached a low level…I think that the devaluation has affected the investments, which are made in dollars, and the returns are also measured in dollars… For example, if you have been able to grow three per cent this year in Brazil, the devaluation… ate everything away. Then, at the end your ratios of capital to revenue do not show the real performance. (Langlatam)

From a cost perspective, another e-entrepreneur explained how LADSs risk exchange rate losses because they acquire most of their infrastructure in US Dollars from technology suppliers based outside of Latin America, but then sell to their customers in local currency:

On one side we have our costs with our suppliers. They are in the United States. The servers and those kinds of things have prices in US Dollars, and we need to pay them outside of the country and on time… So we have some risks of exchange rate. (Advertarg)

A number of DSs sought to mitigate these risks by drafting contracts with customers using US Dollars, or by having contracts containing the ability to adjust prices in the case of devaluation, but these DSs found that such mechanisms reduced their potential target market, because fewer customers were willing to accept such terms, and therefore, the risk of currency devaluation exposed LADSs to financial losses.
5.4 The Socio-Political Environment of Latin American DSs

In the TEF, the socio-political environment conceptualises the social and political embeddedness of firms. This research found evidence of such socio-political embeddedness in the relationships between DSs and other actors in the organisational field, including policy makers, the media and the wider public; which had an impact upon the development of the LADSs.

5.4.1 Political embeddedness

Summary of key findings

- The study found formal-regulative institutions affecting DSs’ digital industry, mainly related to government intervention policies, at a country or local level, designed to foster entrepreneurship and innovation.
- There was qualitative evidence for the positive impact of the policies through which Latin American governments have acted as a catalyst for development and as a vehicle of institutionalisation for cognitive frameworks.
- The study identified some shortcomings in these policies, including resource allocation with questionable efficiency.
- Whilst some societal-level regulative institutions constrained DSs’ ability to implement a digital business model, others enabled it.

Table 5.7 – Summary of key findings in Section 5.4.1

As discussed in Section 3.2.4, political embeddedness refers to the notion that “economies and markets are underpinned by government regulations and institutions” (Geels, 2014; p. 265). The formal-regulative institutions identified in this study were mainly exogenous to the hybrid industry regime, enacted by policy makers rather than by industry specific associations; however, some policies and regulations that influenced the DSs targeted the digital industry in particular.
5.4.1.1 Industry-level policies

Following what Kantis & Federico (2012) described as Level II policies focused on improving the rate at which government sponsored projects result in the creation of new start-ups, all the governments of the Latin American countries investigated in this study had introduced support programmes designed to promote innovation and socio-economic development through e-entrepreneurship. Table 5.8 provides a summary of the programmes identified in the study, along with their scope and information regarding the government agencies in charge of implementing them.

<table>
<thead>
<tr>
<th>Country</th>
<th>Agency</th>
<th>Scope of programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>City of Buenos Aires</td>
<td>Educational programmes, matching funds for seed investments through accelerators for technology-based entrepreneurs inclusive of DSs.</td>
</tr>
<tr>
<td>Brazil</td>
<td>Start-up Brazil</td>
<td>Mentoring, training, and seed funding for DSs.</td>
</tr>
<tr>
<td>Colombia</td>
<td>Innpulsa</td>
<td>Educational programmes, networking and seed funding for technology-based entrepreneurs, including DSs.</td>
</tr>
<tr>
<td></td>
<td>Apps.co</td>
<td>Mentoring, training and seed funding for DSs.</td>
</tr>
<tr>
<td>Mexico</td>
<td>National Institute for Entrepreneurship (INADEM)</td>
<td>Educational programmes, matching funds for seed investments through accelerators for technology-based entrepreneurs, including DSs.</td>
</tr>
</tbody>
</table>

Table 5.8 – Summary of government support programmes operating in Latin America

In addition to the programmes designed to support e-entrepreneurship, all the countries scrutinised had broader societal-level policies designed to expand the penetration of ICTs among the lower economic segments of the population (e.g. by reducing the consumption taxes levied on ICTs, or by imposing targets on incumbent telecommunications service providers to extend their coverage into underdeveloped areas, or subsidising the telecommunications infrastructure).
a result, several e-entrepreneurs and accelerator managers indicated that they expected the potential market for e-commerce consumers to continue growing, consistent with the findings of other studies (Caride, 2016; Katz, 2015). Furthermore, most of the interviewees mentioned that policies focused on improving the telecommunications infrastructure and increasing ICT penetration were a necessary component of the support programmes already established to target e-entrepreneurship. An example of this is provided by the Ministry of ICTs (known as ‘MinTIC’), which was established by the Government of Colombia in order to promote a co-ordinated effort to achieve increased penetration of ICTs and the wider development of e-entrepreneurship. The manager of this Colombian government agency shared his perspective on this initiative:

The current MinTIC… said that to promote the ICTs, we had to work on several areas. The first is with the service providers, so he lowered the import taxes on computers and he lowered the taxes on Internet service. Second is the user, so he promoted providing access to a lot of people with a target of reaching 99 per cent of the population. Some will not have broadband, but will at least have Internet access somewhere close to where they live, even in remote locations… Then he integrated the different value chains and organised the ecosystem to promote entrepreneurship. He told [the entrepreneurs], that [the government] was going to give them mentors. And he decided to do so through the accelerators. (Govcol)

The underlying assumption behind the coupling of policies targeting technology-based entrepreneurs and those fostering increased penetration of ICTs, was that without the latter, the former would run the risk of being ineffective and of creating a ‘bubble’ of DSs that would not be able to grow sustainably. While the synergy of these two policies could arguably be beneficial in any country, there was a particular need for policies encouraging the spread of ICTs, due to
the ‘periphery’ position of Latin American nations, who continue to face infrastructure constraints (Katz et al., 2013; Ngwenyama & Morawczynski, 2009).

The positive impact of these interventionist policies in the organisational field has been twofold. Firstly, the financial resources provided by the support programmes have acted as a catalyst for the development of aspects of the organisational field that may have not developed at all, or which would have taken much longer to develop without such involvement. The comments provided by both an e-entrepreneur and an accelerator manager exemplify how these government programmes have been critical in the provision of seed funding necessary to support the next generation of DSs:

I see a lot of efforts from the government entities to help... We have benefited from programmes launched by the governments of Colombia, Chile and Brazil... It is also amazing that one country... be willing to give you money to launch a private enterprise. In my Latin American conception of the world this is highly unusual, but very good and positive. (Databra)

In Mexico, I feel that efforts are being made to have more entrepreneurs... Now more incubators and accelerators are appearing thanks to the INADEM... For example, we are applying for capital funding to support entrepreneurship. They give accelerators up to fifty million pesos, [equivalent to four million US Dollars], with the expectation that we put the other fifty per cent to start generating investment funds to support start-ups. That has attracted about twenty funds in the last semester and a record number of accelerators were created. (Mexaccel)

Secondly, the educational programmes that have been created offer training in basic entrepreneurial skills, coding and LSM. The e-entrepreneurs who participated in these programmes viewed them as helpful, especially when they were followed with mentoring sessions, as this e-entrepreneur described:
We were coached directly by Steve Blank and Bob Dorf! The government organised an eight-week programme to help provide mentorship to digital entrepreneurs... This was part of the Apps.com programme... to teach us the Lean Start-up method. (Autocol)

As the example provided above illustrates, such government interventions have also contributed to the institutionalisation of functional-cognitive frameworks by connecting actors from the organisational field in the United States with actors in the Latin American organisational field, which adds weight to the notion of institutional flows from the core to the periphery.

Whilst the general perception from research participants was that government interventions have had a positive effect on the creation of new DSs, a number of shortcomings were still identified. The following comments from an accelerator manager highlight a belief shared by some of the interviewees that government programmes do not always elicit funding for the most viable projects, and that the awards process distracted e-entrepreneurs’ attention from growing their sales:

Nothing in [these programmes] is aligned with the success of the [DSs]; and therefore, [many DSs] finish bad, they make the entrepreneurs believe that to be successful what they have to do is win contests... The firms are more concerned about what is required to get the grant from the government, than to satisfy the needs of a customer or an industry. (Accelmex)

This sentiment echoes the concerns of other e-entrepreneurs and investors regarding the questionable efficiency in the use of government resources. While Kantis et al. (2012) offered some guidelines in the designing of intervention policies that could have a high impact on the development of DSs,
Katz (2015) found several shortcomings, which are supported by the findings of this research.

However, another accelerator manager asserted that the most recent partnerships made between the government and private organisations have improved resource allocation:

Start-up Brazil... co-invests with the accelerators and I think that makes more sense because it really motivates us to invest... and I think that we help them to be more selective, we can improve the use of resources. (Accelatam)

Therefore, this research suggests that better coordination between the government and other actors in the organisational field, such as accelerators and private investors, may help to improve the effectiveness of intervention programmes. All of the accelerator managers spoken to in the course of this study were optimistic regarding the future of the seed co-funding programmes, as they believed that private actors are better equipped to evaluate the DSs' business models than the government, leading to DSs being supported in a way that will encourage a higher probability of success in a shorter time frame.

Furthermore, all of the interviewees conceded that the government interventions to date have resulted in a significant increase in the number of DSs, along with incubators, accelerators and investors. A bigger and stronger organisational field results in a consolidation of the institutions that guide the social relationships among its actors, as discussed in Section 5.2.5, and therefore, the industry-level policies implemented by governments in Latin America have indirectly contributed to the building of the institutions that underpin the interactions among them. These findings are supported by Kantis et al.
(2012), who conclude that government interventions have “played a role as a catalyst in weak and embryonic ecosystems, leveraging or creating institutional infrastructure and the actors that bring them to life.” (Kantis et al., 2012; p. 39).

### 5.4.1.2 Societal-level regulations

At the societal-level, this study found that whilst some formal-regulative institutional regulations were unfavourable for the DSs, others provided a source of opportunity. Examples of the former mentioned by the interviewees include complex labour laws, weak intellectual property protection, cumbersome contract enforcement mechanisms, business unfriendly bankruptcy laws, and ineffective judicial enforcement systems. These characteristics of the Latin American political environment resulted in an increased risk to investors or higher costs for the DSs, both of which had to be incorporated into the DSs’ business model, as this accelerator manager explained:

> In Brazil we say: “if you don't have a business model that can work well in the bureaucracy of your country, you just don't have a business model for that country.” It is as simple as that. If you cannot make it work in the country, then move to a different country. (Accelbra)

Whilst the regulative institutions affected all firms equally, there were some that affected DSs in a unique way. For example, this accelerator manager showed how a DS could not launch its business in Brazil, because the anonymity that was a pre-requisite of its digital business model was restricted by the country’s laws, which enforce traceability in all digital communications:

> [There] is [a DS with] an app that lets you type a secret [that] everybody [can] know, but it is anonymous, nobody knows that it was you who typed [it]. That app, which exists in Apple Store and in Google Store was forbidden in Brazil, because there is a law in Brazil that forbids any interaction [on the] Internet, that you cannot trace to a person... So,
federal law is interfering in the market, dictating what type of an IP you can use and apply in Brazil. (Accelbra)

Contrary to the example provided above, by using an online portal, Autocol found an opportunity to bring transparency to the fragmented automobile parts market that was traditionally dominated by informal providers, which had made it difficult for individual consumers to source legitimate replacement parts. The following interview with Autocol illustrates how, in this instance, weak formal-regulative institutions created a business opportunity for the DS:

**E-entrepreneur:** We wanted to offer a certified service. For that we needed to find suppliers [who] offered warranties for their service, with specific facilities, and [who] are operating within the legal framework. Because in this market there are a lot of irregularities, half of the market is outside of the legal framework. And it is a big sector, I think it is around two billion dollars.

**Interviewer:** So, when you said [that] they are outside of the legal framework, do you mean that they have not been formally established as a business, pay tax, etc.?

**E-entrepreneur:** Exactly. For example, I may sell you this mobile phone and you give me cash, so we do not report it to the government... This [parts] market is like that. And some people do not stop to think whether this is good or bad, it is just simply the way it is. Unfortunately, because of this, some people are also able to sell smuggled parts to customers.

These two instances exemplify how the formal-regulative institutions may impact upon the development of DSs; in the instance of Accelbra, the presence of a strong regulation prevented a DS from entering the Brazilian market; whilst in Autocol, a lack of regulation created a market niche for a DS to enter the Colombian market.

Moreover, because DSs operate online, they can easily engage in economic transactions with customers based in numerous countries, leaving
themselves exposed to very different formal-regulative institutions. Therefore, and depending on the regulative requirements applicable to their specific product, DSs may need to conform to different and conflicting regulations in different countries, as the following e-entrepreneur explained:

How [do] we charge for the service? Well, it depends on the country. In Brazil (because it has very complex fiscal laws), we needed to have a [physical] infrastructure in Brazil... We started with a single offshore operation... then we had to open operations in other countries, depending on the fiscal laws. Where we can do it offshore, we do so, where the country requires local operations, we open domestic operations. (Trainlatam)

Therefore, in some instances, in order to comply with the formal-regulative institutions of other countries, DSs were required to make additional investments. In the example provided by Trainlatam above, this necessitated opening offices in different countries.

Macro-economic instability undoubtedly had a direct impact on the development of the DSs, often arising as a consequence of political instability (Biglaiser & Staats, 2010). As an example, this e-entrepreneur explained how political instability in Argentina drove potential investors to demand shorter-term returns:

Today we are in a complicated day in Argentina... The President of Banco Central has just quit, he was the most serious person there was in the government of Argentina and there was speculation of a bank run... Maybe because of the turbulence of the region at a financial level, sometimes there are many investors... who want immediate results, or immediate returns... Just imagine that in Argentina, until yesterday, we didn’t know if the President of Argentina was coming back. So, talking in Argentina about something that will happen in two or three years ahead, is like a century, and that affects you a lot. (Affiliarg)
The evidence provided by this study supports the TEF conceptualisation of firms as embedded in a political environment to which firms must adapt. While some of the societal-level formal-regulative institutions of the Latin American political environment affect all firms equally, there are also some that affect DSs in particular. Some of these institutions constrain the ability of DSs to properly implement a digital business model, while others create opportunities.

### 5.4.2 Social embeddedness

**Summary of key findings**

- There is evidence of cultural institutions affecting LADSs.
- Understanding language preferences is important for the relationships between DSs and their customers.
- Consumer preferences towards national firms varied in different countries: in some cases they were favourable to DSs, in others they were not.
- The cultural institution of trust impacted DSs’ business models by requiring them to invest in offline components.
- The media has contributed to the building of social legitimacy for LADSs.

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<th>Table 5.9 – Summary of key findings in Section 5.4.2</th>
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The TEF conceptualises firms as being socially embedded and underpinned by societal-level cultural-cognitive institutions that build models of reality, mental maps and common belief systems. This section presents the evidence of the existence of four societal-level cultural institutions, identified in this study, which influenced the development of LADSs: language, trust, nationalism and the social perception of entrepreneurship.

One of the key elements of the social structure influencing relationships between Latin America DSs and their social environment is language. LADSs
were found to have created content in their local language, adapted to local cultural idiosyncrasies, as a way to differentiate from their international competitors, as this e-entrepreneur explained:

The culture varies... when you are talking with the final consumers it [impacts] you more... For example, [our firm] had a lot of content mainly produced in Venezuela. The content was very good, but in some countries, they did not like it because of the accent. Those are some cultural elements of which we have to be conscious, because if you are not, your product is not going to work. (Trainlatam)

Therefore, while not always visible, language is a cultural institution that many DSs account for within their business models. Furthermore, the fact that Spanish is a common language across the majority of Latin America (with the exception of Brazil and some islands in the Caribbean) assisted some DSs in their bid to internationalise. This advantage became more apparent when companies were faced with the challenge of adapting their communications when expanding from Brazil into other countries of Latin America, or vice versa, as this e-entrepreneur explained:

And, of course, if I go to Brazil, I speak in Portuguese... and they like that even if you do not do it very well, at least you [make] the effort to speak it. If I had gone to Sao Paulo speaking Spanish, I do not think I would have been able to get any customers. (Advertarg)

It was also found that the institution of trust mediated the social relationships between DSs and their customers, and with other actors in the organisational field. As echoed by Martinez & Williams (2010), trust is an important institution for entrepreneurship and ICT adoption, encompassing a firm’s legitimacy and social fitness. Most e-entrepreneurs spoken to during the course of this research mentioned that in order for customers and business
partners to establish a business relationship with the DS, they needed to first accept the DS as a trustworthy firm. In order to gain such social acceptance, the DSs had to appreciate how the relational systems worked in each country, associate with the right business partners, and communicate suitable messages to potential customers. For example, a segment of Latin American consumers were only inclined to enter into business transactions with DSs if they were able to speak with someone in person, as this e-entrepreneur explained:

> When doing business online, I think we have had to educate a lot of people... you have to teach people to buy online and that they can trust you... that they can pay with their credit card and a product is going to get to them... That has made us add certain steps in our processes and in our model and to design the business to explain this to the customer and to give him that trust. That is why this is different [in Latin America] from other countries. (Optocol)

The example provided above illustrates how a consumers' lack of trust in e-commerce transactions forced some DSs to redesign their business models. This is congruent with the work of Martinez & Williams (2010), who found that countries with weak national institutions often engender a lack of trust, which negatively affects the adoption of e-commerce; and as a result, several DSs in this study had to invest in their offline infrastructure in order to support the initial interactions with their potential customers. However, the e-entrepreneurs from these DSs also confirmed that once they had secured a critical mass of online users, their consumers began to develop a more positive opinion about e-commerce and progressively migrated to exclusively online interactions, which led to further readjustments to the business model, as this e-entrepreneur explained:
For me... that mix of online and offline is important... because the start-ups are always thinking of the scalability, if it is not pure e-commerce, it is a little scary... but we are all the time checking what the client wants; if tomorrow the client says: “You know what, I do not need this anymore, I can do everything in the web”, or at least a certain interesting portion of the people want to do everything via web, why not? We will do it, and make the circuit close by the web. (Insurarg)

Therefore, the intensity with which digital technology was used during the sales cycle was conditional on the cultural needs and mind-sets of both customers and suppliers. Similarly, the volume of offline interactions was driven by cultural perceptions related to the perceived trustworthiness of digital technology. As is demonstrated above, these preferences are subject to change as consumers increase their trust in both the DS as a firm and e-commerce as a vehicle with which to transact their business.

The social preference for national firms, expressed as nationalism, is another societal-level institution that affects DSs in both a positive and negative manner, depending on the country. In both Colombia and Brazil, the mere fact of being a national or regional firm increased customer preference. For example, this entrepreneur explained that Uber had experienced difficulties when attempting to enter the Colombian market because a local DS enjoyed the cultural advantage of nationalistic preference:

Tappsi had success because it is a Colombian company here. It is trying to succeed in other countries, but it has a different context in other markets. I believe there is a cultural element because consumers support the Colombian people, where we feel proud of being a part of it. (Autocol)

Conversely, in Argentina the social preference is usually directed towards foreign firms. In contrast to the example given above, this e-entrepreneur
explained that, in general, Argentinean consumers are distrustful of domestic firms:

[In Argentina], several times product imports were forbidden, so our [national] products were manufactured without much competition. Later the imports were opened and we could compare our products with those from abroad. So, what stayed in the collective subconscious was that products from outside are better than the ones we have made here. (Advertarg)

Therefore, LADSs conscious of these social institutions could potentially leverage or circumvent nationalism, as appropriate, as part of their digital business model. These findings are consistent with those of Balabanis & Diamantopoulos (2004), supporting the assertion that similar behaviours are common from consumers of digital products in many emerging economies.

The attitude from society towards entrepreneurship as a whole was also identified as a cultural institution influencing the development of DSs. Most interviewees in this research mentioned that, in recent years, the general public has been developing a more positive opinion of e-entrepreneurs, partly due to the role played by the media, as the manager of a not-for-profit organisation that promotes the development of e-entrepreneurship in Colombia explained:

[The media] is very important. As a matter of fact, here, above all in the papers for example, [there] are three publications that... [are] trying to open a space to those who are starting a new business. Someday, there will be a main section in these papers full of this type of digital entrepreneurship cases. That is important, because until entrepreneurship does not become [mainstream]... this is not going to have the expected... social impact it should have... and that is: to [convince] each person... that anyone can choose entrepreneurship as a lifestyle. (Enterpcol)
This example also illustrates how the media is focusing on e-entrepreneurship in traditional outlets to cover developments in technology, innovation and entrepreneurship. This supports Isenberg’s (2010) findings, which also highlighted the importance of the media in building an entrepreneurial ecosystem:

The media can play an important role not just in celebrating wins but [also] in changing attitudes. In Puerto Rico, El Nuevo Dia, the largest daily newspaper, supported local entrepreneurship by running a weekly page of start-up success stories. On the small island, these stories have quickly become part of the social dialogue and have raised awareness about the opportunities entrepreneurship presents, as well as the tools it requires (Isenberg, 2010; p. 8).

It is clear therefore that the media can be an influential actor in the socio-political environment, with the potential to increase the social legitimacy of DSs by promoting e-entrepreneurship not only as socially acceptable, but also as a worthy endeavour.

5.5 Summary

This chapter has presented the findings regarding the relationships that LADSs have with the environment, and the effect that such relationships have on their development. Whilst this study may not have captured all such interactions, it provides a perspective on a particular point of development in the LADSs' organisational field; supporting the adaptations proposed to the TEF to account for the distinctive characteristics of LADSs: i.e. their digital properties and their position in relation to other firms and to other organisational fields.

Because of their digital properties, LADSs are influenced by the institutions of both a product-sector and a digital industry regime. Through the reconciliation
of these institutions, the DSs are able to differentiate from core firms in the product-sector industry and innovate accordingly, with this institutional hybridity replicated at three different levels of geographical embeddedness. Whilst some DSs were created to capitalise on their local and national embeddedness, others leverage their digital properties to be dis-embedded from their environment and to operate at a multinational level.

Because the LADSs are new entrants, they have been institution-takers from core firms in the digital industry; and similarly, because the Latin American organisational field is fairly new, it has drawn from institutions developed in the United States. Both these factors are conceptualised as core-periphery relationships, with the peripheral position of the LADSs’ organisational field reflected in its emergent institutions; socio-political and economic uncertainties; constraints on resources and the involvement of other actors (e.g. accelerators, investors and not-for-profits) that channel resources and institutions from the United States into Latin America.

This chapter has also explained how the LADSs have been subject to the influence of endogenous institutions at an industry level, and of exogenous institutions at a societal level. Whilst industry-level policies have often resulted in government interventions that have been positive for the development of the organisational field, societal-level regulations and cultural-cognitive institutions have presented both opportunities and challenges to the LADSs in equal measure.
Chapter 6
Strategic Choice and the TEF in Latin American Digital Start-ups

6.1 Introduction

This chapter seeks to answer the second of the research questions: namely, how do LADSs respond to the institutional environment to support their business models? The findings are analysed through the lens of the TEF’s conceptualisation of firms’ agency as following either internally-oriented strategies to adapt to the environment by changing their business models, or externally-oriented strategies to change their environment. The chapter opens by reviewing the empirical evidence showing how LADSs designed internally-oriented strategies with the aim of achieving product-market-fit through LSM. The second section considers externally-oriented strategies and outlines how LADSs exercised agency in order to change their environment, either by choosing to move to an entirely different environment, or by shaping their environment to make it more favourable to them. The shortcomings associated with LSM are identified, and proposals are made as to how TEF constructs could be applied in order to achieve product-market-fit and a greater fit with the institutional environment.

6.2 Internally-oriented Strategies of Latin American DSs

This section explores how LADSs devised internally-oriented strategies to adapt to the pressures of the environment. The TEF refers to internally-oriented
strategies as the adaptation process through which firms change themselves “to improve their fit with the environment” (Geels, 2014; p. 268) by “changing its core characteristics, e.g. routines, capabilities, belief system, mission” (Geels, 2014; p. 270). As discussed in Section 2.3.2, a DS begins with a business idea that then guides the development of a business model, which is internally-oriented and considers the “unique characteristics of the firm which enable it to do things better or cheaper than other firms” (Geels, 2014; p. 268) (e.g. product, processes, organisation and resources).

6.2.1 The lean start-up method and product-market-fit

Summary of key findings

- LSM has become institutionalised as the functional-cognitive framework through which DSs develop their business models while adapting to the pressures of the economic environment.
- DSs implemented their internally-oriented strategies following BML cycles to test the hypotheses in the nine building blocks of their BMCs in search of product-market-fit.

Table 6.1 – Summary of key findings in Section 6.2.1

This study reveals that LADSs have followed LSM as an internally-oriented adaptation process designed to respond to the pressures of the institutional environment. The three elements of LSM that have most influenced LADSs’ business model development are the business model canvas (BMC), the build-measure-learn (BML) cycle, and the goal of reaching product-market-fit through adjustments to the BMC after each BML cycle.

Blank (2013) asserts that LSM has been disseminated across DSs “in almost every city around the world” (Blank, 2013; p. 7). In Latin America, previous
studies have reported that some DSs and accelerators have adopted LSM (Chassagne, 2015; Frederiksen & Brem, 2017; Hernández & González, 2016; Martin, 2016), and the findings of this study support evidence of a widespread dissemination of LSM across Latin America, as indicated here:

There are already about six thousand people who learned for free Lean Start-up, Design Thinking, and Business Model Canvas just last year in the city of Buenos Aires alone. (Enterparg)

Every e-entrepreneur interviewed in the course of this study appeared to be familiar with LSM, with the majority having adopted at least some of its key constructs. Consequently, the evidence from this research supports the finding that LSM has become institutionalised throughout the Latin America organisational field as the functional-cognitive framework that DSs follow to develop their business models, or as more colourfully expressed by this e-entrepreneur:

Lean Start-up has become like the official religion of this digital world (Medarg).

As discussed in Chapter 2, LSM starts with a business idea that is then converted into a business model following the BMC framework, organised into nine building blocks. These building blocks seek to capture the underlying hypothesis underpinning the DS’s value proposition, relationship with customers, customer segments, revenue streams, sales channels, relationships with partners, cost structure, resources, and key business activities. Once an initial BMC has been created, the LSM recommends that DSs follow a series of BML cycles, to test their hypotheses. This recursive process is designed to test small increments of product development, to learn whether these chunks of product
build-outs result in higher customer adoption, and to decide whether to accept the hypothesis as outlined in the BMC, or to implement a change that would trigger a new BML cycle.

For all the e-entrepreneurs in the study, the first step in building their DS was the identification of a market need arising from the particular conditions of the environment that could be satisfied through the creation of a digital product, which can be conceptualised as the ‘business idea’ outlined in LSM (Ries, 2011). The business ideas initiating the DSs in the study were the result of the e-entrepreneurs’ personal and professional experience, or market research. For example, the business idea discussed in Vignette 5.1 (Insurarg) emerged as a result of the experience that the e-entrepreneurs had in working with a traditional insurance broker, influenced by embeddedness in the Latin American environment (as also discussed in Section 5.2.2)

Vignette 6.1 offers an example of how a DS translated its business idea into an initial BMC, before developing its business model through BML cycles. This DS progressively adapted its product, internal resources, capabilities, and relationships with customers and partners in response to pressures from the environment, evidenced in customers’ willingness to pay for the service, partners’ willingness to participate in the business, and investors’ willingness to fund the DS.
Vignette 6.1 – Development of a DS through BML cycles

Trainbra was founded by a Brazilian e-entrepreneur in Rio de Janeiro, with the aim to provide an online portal to broker relationships between private tutors and students in Brazil. The business idea emerged from the personal experiences of the e-entrepreneur gained whilst working as a private tutor when studying at university, when it became apparent that it was often difficult for students to find private tutors and vice-versa. The creation of a digital portal seemed a way to make this market more efficient. In the first iteration of the product, the team (the e-entrepreneur and a programmer), self-funded and built an online prototype of the product, based on a primary BMC (illustrated in Table 6.2). At this point, the pilot was left unfinished, the team disbanded and the funds ran out. The e-entrepreneur then decided to apply to an acceleration programme, where he received additional funding, coaching and training in LSM; finding another partner and after six months launching the first prototype of the product. Upon its inception, students and tutors slowly started to adopt the platform, and an investor agreed to provide funding to allow the continued development of the project.

<table>
<thead>
<tr>
<th>Key partners</th>
<th>Key activities</th>
<th>Value proposition</th>
<th>Customer relationship</th>
<th>Customer segments</th>
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<tbody>
<tr>
<td>Tutors</td>
<td>On-line portal development</td>
<td>access to a variety of specialised tutors. Tutors would be rated. Scheduling would be simplified by the on-line portal. Tutors would have access to a pool of students close to their location. Students and tutors would enjoy price transparency and prearranged terms and conditions</td>
<td>Digital marketing</td>
<td>Undergraduate, High-school, and Middle-school students. Tutors in different academic disciplines (i.e. Maths, Sciences, Language, History)</td>
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<td>Hosting provider</td>
<td>Student and tutor recruitment</td>
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<td>Digital customer support</td>
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<td>Sales through on-line portal</td>
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<td>Capital for CAPEX and OPEX</td>
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| Cost structure     | Revenue streams                    |                                                                                  |                       |                                                                                  |
|                   | Coding: marketing                  |                                                                                  |                       |                                                                                  |
|                   | CAPEX: on-line portal development  |                                                                                  |                       |                                                                                  |
|                   | OPEX: hosting, infrastructure amortisation, telecom |                                                                                  |                       |                                                                                  |
|                   | A commission would be charged to each tutor after an engagement is agreed with a student |                                                                                  |                       |                                                                                  |

Table 6.2 – Trainbra BMC, Example #1

After launching the first version of the platform, the team followed numerous BML cycles, adding new features to the platform with the aim of...
increasing adoption amongst both students and tutors. After the development of each new feature they sought feedback, deciding whether to keep or discard the various changes. In parallel, the team monitored other hypotheses in their BMC. Their business plan assumed that they could monetise the platform by charging commissions to the tutors who were able to find students via the platform. However, after two months, the e-entrepreneur realised that the incremental changes to the platform were not resulting in additional revenue, and after interviewing some students, discovered that many tutors were using the platform to make initial contact with students, but were then reaching final agreement and taking payment outside of the platform, in order to avoid the fees charged by Trainbra. As a consequence of this information, the team attempted to implement a number of processes that preserved the link between tutors and students within the platform, but they were ultimately unsuccessful. The resultant stagnant revenue exerted huge financial pressure on the DS, as they were rapidly draining capital without achieving the growth necessary to attract further investment.

At this point, the DS initiated a substantial change in their business model, moving from private one-to-one tutoring to organising groups of classes. Table 6.3 illustrates the modified BMC after this change. Inspired by a business model developed in the United States, the platform was adapted to promote offline workshops on topics specialising in entrepreneurship, arranged at a specific time and place. Trainbra coordinates the offline logistics required for the class to occur, and hires the tutor, with the sole remaining online element the commercialisation of the course. This combination of offline and online elements gave the DS greater control of their revenue, and the team continued to engage in BML cycles to
modify aspects of the business model that would result in higher customer adoption. While this revised model allowed them to increase their revenues, after one year of working on the model and searching for incremental improvements, the team decided that the business model was too difficult to scale and was subject to too many elements outside of their control (e.g. tutors not arriving punctually, problems with venue facilities and other logistical problems). By this point, capital was rapidly depleting and the DS was unable to acquire additional capital without providing a path for achieving a scalable business model; leading the team to decide to implement yet another substantial change.

Table 6.3 – Trainbra BMC, Example #2

The new BMC (Table 6.4, below), shows how in its third iteration, Trainbra returned to an online platform; only this time the digital content was developed by offering studio quality recordings of lectures undertaken by experts in a variety of topics. The online workshops were offered in modules accessed through the online portal. The first module of some of the workshops was offered for free, with the rest of the sessions then offered for a fee. This new model enabled better scalability, by minimising the pitfalls of offline logistics, and by allowing students across the country, irrespective of location, to access content. Both students and partners (the experts recording the lectures) quickly adopted the model, and...
Revenues improved. After redefining its business model in a way that enabled faster scalability, Trainbra secured a new round of funding.

Table 6.4 – Trainbra BMC, Example #3

<table>
<thead>
<tr>
<th>Key partners</th>
<th>Key activities</th>
<th>Value proposition</th>
<th>Customer relationship</th>
<th>Customer segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic experts</td>
<td>On-line portal development</td>
<td>Students could enjoy access to in-language workshops on a specialty topic from anywhere.</td>
<td>Digital marketing</td>
<td>Target between 18 and 30 years old anywhere in the country.</td>
</tr>
<tr>
<td>Recording studio</td>
<td>Student recruitment</td>
<td></td>
<td>Digital customer support</td>
<td></td>
</tr>
<tr>
<td>Hosting provider</td>
<td>Topic experts recruitment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telecom provider</td>
<td>Digital content production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT provider</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key Resources</th>
<th>Key activities</th>
<th>Value proposition</th>
<th>Customer relationship</th>
<th>Customer segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic experts</td>
<td>On-line portal development</td>
<td>Students could enjoy access to in-language workshops on a specialty topic from anywhere.</td>
<td>Digital marketing</td>
<td>Target between 18 and 30 years old anywhere in the country.</td>
</tr>
<tr>
<td>Programmer</td>
<td>Student recruitment</td>
<td></td>
<td>Digital customer support</td>
<td></td>
</tr>
<tr>
<td>Digital content producer</td>
<td>Topic experts recruitment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT resources</td>
<td>Digital content production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital for CAPEX and OPEX</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cost structure</th>
<th>Revenue streams</th>
</tr>
</thead>
<tbody>
<tr>
<td>COGS: production of digital content, fees of experts, marketing. CAPEX: on-line portal development, OPEX: hosting, infrastructure amortisation, telecom</td>
<td>Fees charged to each student to gain access to specific digital content. Recurrent subscriptions to gain access to all the digital content in the portal.</td>
</tr>
</tbody>
</table>

All of the DSs in the study followed an iterative process similar to the one outlined in Vignette 6.1, to understand whether their product and its associated business model could satisfy genuine customer needs before investing any more in product development. In this way, the BML cycle usefully explains the mechanism through which DSs adapted to the pressures from the environment that affect DSs’ ability to monetise their service (willingness of customers to pay), to gain access to resources (willingness of suppliers and partners to participate), and to gain access to capital (willingness of investors to provide funding).

Figure 6.1 maps the relationship between the stages of the BML cycle and the adaptation process followed by Trainbra. In the first cycle, the DS focused on building the minimum viable product (MVP). After offering the MVP to customers, the DS measured levels of adoption and identified features that could attract more students and tutors. By adopting the platform, customers and tutors provided positive feedback to the DS on the latest changes to the product or business model; however, when adoption declined, pressure was imposed on the DS to implement further changes. In order to respond to this pressure, the e-
entrepreneur had to identify the potential causes of non-adoption (e.g. students and tutors using the platform to establish contact but making final arrangements independently), and ways that the DS could not scale up (e.g. limitations in the offline components of the business model). Difficulties in improving customer adoption resulted in additional pressures from investors, who were unwilling to continue investing in the DS. Once the DS had identified the reasons for the decline in customer adoption, the e-entrepreneur then had to decide what elements of the product and business model to change. Figure 6.1 also shows the process that Trainbra followed in order to adapt to the environment through the BML cycles, grouped into two phases: in the first phase, the DS assimilated the pressures from the environment by measuring customer adoption and partner participation; and in the second phase it responded by learning from the feedback received and implementing changes in the product and business model.

Figure 6.1 – The Build-Measure-Learn Cycle as an Adaptation Process, modified from Ries (2011)
LSM demands that each iteration of the BML cycle should aim to validate the hypotheses stated in the BMC, until the DS is able to achieve product-market-fit. During this process, most DSs spoken to in this research experimented with incremental variations of the original business idea. However, if small variations in the product or the business model were not enough to entice a sufficient number of new customers to pay for the product or service, the DSs then explored modifying more structural aspects of their business model, to the point of questioning whether the business idea was even viable. When some of the DSs in the study failed to adequately grow customer adoption, finding themselves in a revenue plateau, they decided to engage in a ‘pivot’, initiating substantial changes to the core hypothesis of their business model. For example, as illustrated in Vignette 6.1, Trainbra underwent two pivots that transformed its business model before finding product-market-fit: moving from an online private tutor brokerage platform into an online portal selling tickets to classes offered offline; before finally transforming back into an online platform offering specialised training content.

Whether through incremental variations, or via wholesale pivots, the DSs featured here followed LSM to adapt to the demands of their customers, partners and investors until they were able to develop a scalable business model. Because the aim of LSM is to achieve product-market-fit, the adaptation processes followed by the DSs were exclusively internally-oriented, only designed to change the DSs’ own properties. For example, Trainbra was solely focused on adjusting the nine blocks of the BMC related to the DS's product, internal capabilities, routines, resources, and partnerships. The adjustments to the BMC taken by the
DSs as a result of the BML cycles can be conceptualised as what Geels (2014) describes in the TEF as internally-oriented strategies.

However, the internally-oriented strategies outlined in the TEF have a broader scope than that captured through LSM. LSM assumes DSs are embedded in an economic environment, but ignores the hybrid-industry regime and the socio-political environment, because the nine building blocks of the BMC that guide the BML cycles only map the relationship between a DS, its customers and partners. Therefore, the TEF differs from LSM, as the TEF regards internally-oriented strategies as an adaptation process arising from any pressure in the institutional environment, while LSM is concerned exclusively with pressures coming from the economic environment.

### 6.2.2 Shortcomings of the lean start-up method

#### Summary of key findings

- LSM has shortcomings – ignores the need for DSs to respond to environmental pressures outside of their relationship with customers and partners.
- This study supports the literature that finds that LSM has been more commonly implemented as an intuitive guiding process rather than as a systematic metrics-based process.

This section discusses the shortcomings of LSM when examining the internally-oriented adaptation processes identified in the study. This research has confirmed that a crucial limitation of LSM is its failure to acknowledge the wider institutional environment factors that DSs must respond to, beyond their economic relationships with customers and partners. This section provides
examples showing where DSs needed to improvise and adapt their business models in response to a more complex set of relationships with the environment than those considered in their BMC.

Some DSs, such as Trainbra discussed in Vignette 6.1, were able to adapt to the demands of the economic environment without facing conflicting or substantial pressures arising from the socio-political environment or the hybrid industry regime; however, other DSs were forced to adapt to the pressures emanating from these institutional environments. For example, Marketarg developed its business model using LSM, designing a digital marketing engine that aggregated traffic from different small websites across Latin America to broker and publish content gathered from different advertisers. However, unexpected changes in intellectual property regulations in the United States that then trickled down into Latin America made it illegal to advertise on websites that were not compliant with new intellectual property protection requirements. This change in the formal-regulative institution negatively impacted Marketarg’s business model, as the e-entrepreneur explained:

We suddenly faced substantial changes in the regulation… and ninety per cent of our market disappeared… so we had to rethink everything.

(Marketarg)

As a consequence, in order to respond to pressures from the institutions in the socio-political environment Marketarg was forced to pivot and redesign its business model reusing its core resources and capabilities.

Autocol was similarly affected by pressures arising from the socio-political environment. After entering the customer validation stage, Autocol was suddenly
forced to adapt its business model, in response to an unexpected regulatory challenge that resulted in them facing legal proceedings, as the e-entrepreneur explained:

And, for example, some time ago we were sued because... at that moment we did not take [the socio-political environment] into consideration. (Autocol)

In this instance, the pressures from the socio-political environment did not force Autocol to implement a pivot, but rather forced it to make rapid adjustments to its internal operations and relationships with customers and suppliers. While Marketarg and Autocol were able to successfully employ internally-oriented strategies to adapt to the pressures of the socio-political environment, neither anticipated the need to do so, because the relationship with the socio-political environment was not part of their business model or strategic definition methodology, as an e-entrepreneur later admitted:

It was because we did not have information and because, within the methodology, they told to focus on selling, not to focus on looking at the relationship with the rest of the environment. (Autocol)

Furthermore, the case of Optocol, discussed in Vignette 5.3, illustrates how some DSs also needed to adapt to pressures emanating from the hybrid industry regime. Optocol experienced unexpectedly strong negative reactions from the core firms located in the product-sector industry of optometrists when they started to sell graduation lenses online. Just as in the two examples provided above, the e-entrepreneurs of Optocol were familiar with LSM, but they never anticipated the possibility of receiving such strong pressure from the hybrid industry regime:
I had not really thought about [strategic definition] in this way, but if we had thought about the business environment and the people in the industry since the beginning, it would have been easier. If we had opened our eyes since the first moment to see the importance of that subject, it would have [made] a great difference (Optocol)

Thus, Optocol had to devise a way to adapt to the pressures coming from the core firms and the product-sector industry institutions. Had Optocol spent time considering its relationship with the institutions of the product-sector industry regime, and the potential reactions from the core firms, it could have designed a different business model, or (at the very least) formulated strategies to respond effectively to them. Whilst Blank & Dorf (2012) acknowledged that DSs should recognise existing firms as competitors, they only discuss market price and product driven competition. Indeed, there is no discussion of the relationship between the DSs and the institutions of the product-sector or digital industry regimes in any of the LSM literature.

As discussed in detail in Chapter 5, a range of environmental pressures were identified in this study, in addition to those emanating from the relationships formed with customers and partners, including difficulties in overcoming bureaucracy; negative and forceful reactions from core firms holding dominant positions in the product-sector industry; a lack of regulation designed to facilitate undertaking overseas transactions; complex and demanding tax regimes; language differences; social trends that may create short-term, amorphous opportunities; cultural preferences and changes in macroeconomic factors. Table 6.6 summarises the institutional environment pressures that some of the DSs reported.
Table 6.6 – Institutional environment pressures not anticipated in LSM

Most DSs noticed these pressures only after completing numerous iterations of the BML cycle. For example, Optocol noticed the pressures emerging from the hybrid industry regime some two months after starting their operation, with the e-entrepreneur wishing that he had been more proactive:

I think that if I went back, what I would do [from] the first moment would be to go and speak with the regulators, as well as with the anti-trust agencies and I would try to direct the course of the facts. (Optocol)

Similarly, the majority of e-entrepreneurs identified in Table 6.6 would have preferred to anticipate the potential pressures arising from the institutional environment rather than having to improvise an adaptation process in response.

Interestingly, this sentiment is in contrast with the views of e-entrepreneurs from DSs who have yet to experience pressures outside of the economic environment. When asked whether they considered it important to devise potential strategies at the outset to manage the relationships between their DSs, the hybrid industry and the socio-political environment, most of them answered negatively. They strongly believed that the main focus of a DS in its early stages...
should be its relationship with its customers, and its internal operations, and that everything else was a distraction:

We were very focused on the business… we understand that our clients and the quality of our service [provide support to] what we do… not our political influence with the government… nor with other [firms]… we were not interested in that… We spent three years checking the client adoption of the product, improving processes, growing systems, and had so much work that we did not have time for anything else. (Insurarg)

This finding suggests that DSs following LSM tend to ignore pressures arising in the institutional environment outside of their relationships with customers and partners until they are forced to. This is a crucial weakness, given that two thirds of the DSs spoken to in this study eventually faced such pressures, as shown in Table 6.6.

Furthermore, accelerators and investors seemed to encourage DSs to concentrate their resources exclusively on developing their relationship with their customers and partners, as this accelerator manager explained:

I strongly believe that [e-entrepreneurs] should not be worried about any of that in the early stage; that is, not to change the culture, or the government, or the relationship with other firms in their sector… I think that everybody should be spending most of their time trying to become experts in their customer [base]. (Accelmex)

In another example, an investor explained that he preferred to bypass investments that required engagement with the socio-political environment, because he considered such issues beyond the scope of their investment framework:

We have had conversations with start-ups that were different… one required funding for lobbying… which exceeded a little bit our limits of investment premises; and that is why they were discarded. (Angelmex)
This investor had already invested in several DSs, with the proviso to only invest in DSs that were focused on a narrow target market and that could prove product-market-fit in a short time and without excessive resources. These two instances illustrate how LSM, as a functional-cognitive institution, compels accelerators and Investors to guide DSs into ignoring strategies that consider the hybrid industry regime and the socio-political environment in their business models, at the expense of realising later that these environments can negatively impact on the DSs’ ability to grow.

Because almost all of the DSs in this study were operating within very limited budgets, a slowdown in their revenue could put them at serious financial risk, and thus an unanticipated pressure from the environment could consume limited capital during the time it would take to make the necessary adjustments to its business model. For example, in the case of Optocol, discussed in Vignette 5.3, the DS was forced to halt trading for months, diverting its capital from business development to lobbying and litigation, in order to respond to pressure from the hybrid industry regime, almost forcing it to close. Therefore, this research would argue that DSs would benefit from better anticipating the potential risks arising from institutional changes or reactions from actors located in the hybrid industry regime or the socio-political environment. This is particularly true for DSs operating in Latin America countries, and possibly in other emerging economies, where firms have to “develop unique strategies to cope with the broad scope and rapidity of economic and political change” (Hoskisson, Eden, Lau & Wright, 2000; p. 249).
In addition to the limitations of LSM discussed above, the findings also suggest that DSs seldom implement the method in its entirety. Ries (2011; p. 2) explained that “start-up success can be engineered by following the right process”, and therefore that LSM aims to offer e-entrepreneurs a systematic, metrics-based process for the development of software-based start-ups. However, the majority of the DSs interviewed saw LSM as providing only a general set of guidelines for the creation of a business model, rather than as a systematic, metrics oriented process of product development, as this excerpt of an interview with an accelerator manager illustrates:

I think that there has been a very big problem with Osterwalder and Ries and all the academic institutions trying to systematise entrepreneurship. I think that a BMC is a very nice way to reflect an opinion of a business plan, but it has nothing to do with a mechanism to systematically conceive enterprises… Lean Start-up was converted into a theory… So, I think there is a great amount of noise around Lean Start-up. (Accelmex)

These findings are consistent with other studies (Björk et al., 2013; Chassagne, 2015; Ghorashi, 2015; York & Danes, 2014), which found that DSs have faced difficulties when attempting to fully implement LSM, due to the different ways suggested to undertake an objective, metrics-based implementation. Chassagne (2015) also identified challenges resulting from the economic and socio-political conditions of the Brazilian environment, some of which were mentioned in Table 6.6.

Therefore, whilst LSM undoubtedly provided a useful functional-cognitive framework for the DSs in this study to design internally-oriented strategies, and has also become ubiquitous across the organisational field, in several cases it failed to fully meet the needs of LADSs to adequately address the pressures in
their institutional environment. It was only through the development process that some of the LADSs realised that they should look not only for product-market-fit, but also for a wider fitness with the environment. Chapter 7 will discuss how the TEF can expand LSM to better explain how LADSs adapt to the environment.

6.3 Externally-oriented Strategies of Latin American DSs

This section considers how LADSs strategically change their environment through the application of externally-oriented strategies. The TEF describes such agency thus:

Seeing the environment as a ‘choice landscape’, the external approaches portray adaptation as manoeuvring across space to find the best position or as active attempts to shape and mould the space (Geels, 2014; p. 268).

Therefore, DSs may exercise strategic choice through internally-oriented strategies to change the firm to fit the environment, or through externally-oriented strategies to either identify an environment that fits the firm, or to change the environment to fit the firm. This section discusses the two types of externally-oriented strategies identified in this research: environment selection and institutional entrepreneurship.
6.3.1 Environment selection

Summary of key findings

- Some DSs showed strategic intent in their choice of environment.
- Multi-levelness and the core-periphery relationship between the organisational fields of the United States and Latin America influenced environment selection as an externally-oriented strategy.
- The constructs of the TEF can expand LSM to include environment selection as a variable subject to strategic choice.

Table 6.7 – Summary of key findings in Section 6.3.1

Geels (2014) highlights that industrial organisation strategy frameworks “argue that a firm’s performance is a function of its (industry) environment, and that the crux of strategic advantage is to find a profitable position” (Geels, 2014; p. 268). This implies that one of the fundamental strategic choices to be made by a DS is the selection of an environment that provides a good fit for its business model.

The DSs listed in Table 6.8 (below) made the strategic decision to move their operations to a different environment. Whilst the majority of the DSs questioned in this study located their operations in a particular environment because their founders were also embedded within it, the e-entrepreneurs of the DSs highlighted in Table 6.8 believed that a change in environment would improve their potential for growth, as this e-entrepreneur explained:

We are Colombian and had the idea of starting this business in Bogota, but we [then] got the option to go to Chile… we got support from Start-up Chile… then we decided that the best strategy was to start the company in Brazil… because it had a much larger market of small and medium businesses. (Databra)
Table 6.8 – Latin American DSs that exercised environment selection

<table>
<thead>
<tr>
<th>DS</th>
<th>Original environment</th>
<th>New environment selected</th>
<th>Reason(s) for selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Databra</td>
<td>Colombia</td>
<td>Brazil</td>
<td>Size of target market, Access to capital</td>
</tr>
<tr>
<td>Trainlatam</td>
<td>Latin America</td>
<td>United States</td>
<td>Political and macroeconomic stability, Formal-regulative institutions, Access to capital</td>
</tr>
<tr>
<td>Langlatam</td>
<td>Latin America</td>
<td>United States</td>
<td>Political and macroeconomic stability, Formal-regulative institutions, Access to capital, Availability of exit options</td>
</tr>
<tr>
<td>Shareapp</td>
<td>Argentina</td>
<td>United States</td>
<td>Size of target market, Formal-regulative institutions, Access to capital</td>
</tr>
<tr>
<td>Finanmex</td>
<td>Chile</td>
<td>Mexico</td>
<td>Formal-regulative institutions, Size of target market</td>
</tr>
</tbody>
</table>

The e-entrepreneurs from these DSs identified the following factors as having affected their choice of environment: the size of their target market, the financial and administrative burden of regulations, political and macroeconomic stability, their access to capital, and conditions for an exit strategy. For example, the following e-entrepreneur explained how he decided to move to the United States mainly to be closer to American investors and to elude the unfavourable tax and labour regulations present in Latin America:

[We] started as a Latin American enterprise. It started in Venezuela; the problem is that as a Latin American enterprise, you [have] all the limitations of the Latin American countries, logistics, how to start growing, how to go from one country to another, etc., and the access to people and to capital... Then we decided to move to the United States, to Miami, which is the ‘capital of Latin America’... If you are [in Miami], it is a neutral territory; and on the other side, it is much more important for us to be close to the investors. (Trainlatam)

The findings of this research suggest that at least some DSs actively consider whether the conditions of their environment are favourable to their business model before establishing their operations (as illustrated by Databra) or when deciding in which countries to grow (as illustrated by Trainlatam). This
finding is consistent with the work of Pezderka & Sinkovics (2011), who discovered that DSs consider environmental risks (e.g. political situation, payment systems, restriction of goods and capital flows across borders, exchange rates, interest rates, and inflation) as part of the process of internationalisation. Similarly, Reuber & Fischer (2011) identified that when choosing a target market, entrepreneurs commonly consider the environmental constraints.

This study uncovered evidence suggesting that multi-levelness and core-periphery relationships between Latin American and the United States influenced the LADSs’ ability to change their environment. Multi-levelness (where institutions are run at a local, national and multinational level) facilitated DSs moving to a higher-level environment than the one in which they were originally embedded, without affecting their ability to sell into their target markets. For example, the three DSs identified in Table 6.8 that moved to the United States continued selling into Latin America via their digital channels, despite having minimum local infrastructure. The DSs were able to adapt quickly to the environment in the United States, because they were familiar with its institutions, while their digital sales channels allowed them to continue to reach their customers. Therefore, the digital properties of DSs not only enabled internationalisation, as discussed in Section 5.2.2, but also enabled environment selection as an externally-oriented strategy.

Multi-levelness also enabled the multi-directional flow of organisations and innovation. This accelerator manager explained how they advised and supported a DS to move from Brazil to the United States:
[Crowdbra] offers a crowd-funding service for concerts, so if you want to have [a famous band] playing in your city, you can do a crowd-fund and book the date of the concert... When we received [Crowdbra] into our programme we said: “This is new; this is completely disruptive”... I cannot find this model in the United States... So we asked them to move to the United States... And they raised a million dollars in the early stage in convertible notes in two months... they are now doing very well. (Accelbra)

This quote demonstrates how the network of relationships that DSs and accelerators have in different countries enabled this DS to move from one environment to another in order to find a more advantageous and profitable market position. In the instance provided above, the accelerator acted as both broker between the DS and actors in the organisational field of the United States, and as a channel to transfer the institutions from the digital industry in the United States (for example, by teaching the DS LSM, replicating business practices, ways of dressing, vocabulary, and the way to use technology) into Brazil. This institutional flow facilitated the DS’s ability to move from Brazil into the United States in a relatively short time frame and without having to undergo substantial adjustments to its identity and business model.

In Chapter 5 it was discussed how some LADSs replicated business models developed in the United States; however, the business model of the DS discussed above was first developed in Brazil and then transferred to the United States. This reveals how the multi-levelness of the organisational field facilitates a multi-directional flow of organisations and innovation.

Another structure that influenced DSs to emigrate from Latin America into the United States was the core-periphery relationship that exists between these two organisational fields. As discussed in Section 5.2.4.3, Latin America has been
a receptor of institutions and resources from the United States. For example, this accelerator manager explained how he advised the DSs in his programme to incorporate their business in the United States in order to improve their chances of gaining access to capital:

I am asking them to be [Limited Liability Corporations] incorporated in Delaware, United States… The [DS] we sold was a success because we did not incorporate it here in Mexico… So, you prepare them and you send them away, not just for an exit but for them to have a better chance of success. (Mexaccel)

The belief, shared by accelerators and DSs alike, that moving to the United States would help them to gain access to capital or increase the probability of them being acquired by a core firm, appeared to be justified in several success stories uncovered in this study. For example, this accelerator manager explained how one of its DSs, after developing a digital solution to track the ratings of TV content via social media, was acquired by a core firm in the United States:

One of the start-ups was sold to an American enterprise a year after we invested in it… now they are incorporating their technology into a new product and developing it for the entire region… It is a genuine [case] of [a] new technology development and of a business that creates value from the region with a global scope. (Accelatam)

In this example, the DS’s acquisition provided the accelerator and the e-entrepreneurs an exit whilst also enabling the core firm to strengthen its own product and expand into Latin America. Therefore, the evidence provided by this research supports the finding that the core-periphery relationship between the organisational fields of the United States and Latin America influenced environment selection as an externally-oriented strategy.
This study also found that in all the companies identified in Table 6.8, the decision to choose an environment took place outside of the BML cycles, as LSM does not even mention environment selection as an element of business model definition because it takes the conditions of the environment for granted; meaning that the environment is not considered as a variable subject to change or choice. This shortcoming in LSM did not prevent the LADSs featured here from considering environment selection as an alternative strategy, but it does highlight the need for DSs in emerging economies to have access to a more comprehensive strategic definition framework that takes the environment into account.

Table 6.9 summarises how the TEF-based constructs of multi-levelness and core-periphery relationships can widen understanding of the strategic definition available to LADSs beyond LSM, by recognising environment selection as an alternative externally-oriented strategy.

<table>
<thead>
<tr>
<th>TEF-based construct</th>
<th>Contribution to environment selection</th>
</tr>
</thead>
</table>
| Multi-levelness                   | - The digital properties of DSs allow them to sell into other countries from anywhere. This facilitates environment selection because a DS may continue selling into the original environment even after moving to another.  
- DSs can establish a network of relationships across different levels of the organisational field, which can be brokered by other actors, such as accelerators. Relationships at a multinational level can enable the flow of DSs among different environments.  
- Institutions that affect the organisational field at a multinational level facilitate the transferability of business models from lower to higher levels. In the same way that LADSS may replicate business models designed in the US, Latin American DSs may export their business models into the US. |
| Core-periphery relationships      | - The organisational field of the United States has long been a provider of institutions and resources into Latin America.  
- The resources available in the United States have attracted LADSs, who look for opportunities to reach an exit. |

Table 6.9 – TEF constructs explaining Latin American DSs’ environment selection
6.3.2 Institutional entrepreneurship

Summary of key findings

- Some DSs were able to shape the institutions of their hybrid industry, economic and socio-political environments.
- The study identified three different strategies of DSs, associated with the reactions of product-sector core firms to the entrance of DSs: intervention, partnering and neutral stance.
- The strategic choice loop explains the mechanism through which DSs made sense of institutional pressures and defined externally-oriented strategies to shape the environment in their favour.

Table 6.10 – Summary of key findings in Section 6.3.2

This section opens by presenting the findings showing how some DSs took the strategic decision to shape the institutions of the Latin American institutional environment through externally-oriented strategies. It then discusses how the TEF can overcome the shortcomings of LSM and improve LADSs’ strategic definition, by incorporating the notion of three parallel strategic choice loops to enable the design of externally-oriented strategies.

The previous section identified why some LADSs took the strategic choice to move to a different environment. However, for the remaining DSs who are the focus of this study, moving from the environment in which they were originally embedded was neither feasible nor attractive. Nevertheless, some DSs discovered that they could not achieve a suitable fit with their institutional environment simply by adapting their internal capabilities, routines or resources through internally-oriented strategies, and thus decided it was necessary to change the institutions exerting unfavourable pressures over them in order to enable their digital business models. This is anticipated in the TEF, which
recognises that firms are not simply passive actors whose actions are determined by institutions, or purely “routine-based or ‘cultural dopes’” (Geels, 2014; p. 268); and on the contrary, the TEF sees firms as actors with the ability to interpret institutional pressures and to behave with strategic intent. In this way, firms can change their environment by engaging in institutional entrepreneurship in order to create, maintain and transform institutions (Scott, 2014). This study found evidence supporting the finding that firms engage in institutional entrepreneurship through externally-oriented strategies in the three environments in the TEF: the hybrid industry regime, the economic environment and the socio-political environment.

When considering externally-oriented strategies towards the hybrid industry regime, Section 5.2.4 discussed in detail how relationships between DSs and the core firms in the product-sector and digital industries had a significant impact on the DSs' development; concluding that defining the correct strategy to manage these relationships was often a matter of survival, as this accelerator manager explained:

If you design a business model and you are not thinking since the beginning about the interactions with these [core] firms, which are so complicated to interact with, and how you are going to connect with them you are dead. (Mexaccel)

This research identifies two externally-oriented strategies regarding the hybrid industry regime: those directed towards the product-sector industry designed to prevent or respond to negative reactions from core firms located in the product-sector industry; and those directed towards the digital industry, intended to devise a united response to the socio-political environment. Vignette
6.2 provides an example of a DS that implemented externally-oriented strategies towards both the product-sector and the digital industries.

**Vignette 6.2 – Externally-oriented strategies towards the hybrid industry regime**

Investarg is a DS founded in Argentina in the early 2000s, with the purpose of providing access to stock market trading in Latin America to the those located at the ‘middle and the bottom of the pyramid’. The e-entrepreneur who founded the company had experience in the financial services (product-sector) industry and was familiar with its normative and formal-regulative institutions. Realising that only a limited number of wealthy individuals invested in the stock market of Argentina, the e-entrepreneur decided to design a business model that could democratise the stock market by targeting individuals who had a large enough income to allow them to save, but who had never considered investing in the stock market. This objective, to create a completely new market segment, could be described as a ‘blue ocean strategy’ (Kim & Mauborgne, 2004). Nevertheless, whilst the intention of the DS was to target new customers, rather than competing with existing stock brokers, the core firms of the (product-sector) financial industry regarded the entrance of Investarg as marking a potential risk and tried to block its entrance, as the e-entrepreneur explained:

> When we entered the market, the stock exchange implemented a regulation stating that to generate online transactions, there should be human intervention, which was totally absurd because our model automates processes and eliminates intermediaries. (Investarg)

By leveraging digital technologies, Investarg could lower costs, speed up transactions and improve the availability of information to its customers. However,
the financial (product-sector) industry regime in Argentina was supported by operational and technical routines that needed to be changed in order to accommodate Investarg’s model. For example, the stock exchange in Buenos Aires provided its members with a number of terminals proportional to the member’s share in the stock exchange, with the higher number of shares a member held, the more terminals it could access. These physical terminals allowed members to gain access to the stock market to execute one transaction at a time, and therefore members who had invested more in the stock exchange had the advantage of access to more terminals, enabling them to execute more transactions. In contrast, the Investarg model only required access to one terminal, from which a large number of transactions and customers could be served, disrupting how the stock exchange operated. This lock-in mechanism drove core firms in the product-sector industry to resist this change, responding to Investarg’s entrance in the market by issuing new industry-level norms that required a manual intervention for each transaction, and which therefore eliminated the advantage offered by digital technologies to manage multiple transactions.

In order to circumvent this pressure, Investarg established a partnership with the stock exchange of the city of Rosario, which agreed not to enforce such restrictive practices. Whilst Rosario is a smaller exchange than that of Buenos Aires, it offered Investarg a platform from which to start their operations. In return, the Investarg model offered the Rosario stock exchange an innovative way to attract new customers and compete with Buenos Aires. The business model quickly showed signs of success, as the e-entrepreneur explained:
We suddenly started to manage many more transactions in [Rosario] than those going through Buenos Aires, because of all the new customers that entered the market through us. (Investarg)

The stock exchange in Buenos Aires eventually came to realise the potential offered by this innovative business model, and changed the industry’s self-imposed restrictions to enable online transactions through a single terminal, or what was then referred to as a ‘gateway’.

It is apparent that whilst Investarg initially experienced pressures from the product-sector industry that could have spelt an end to its organisation, it instead chose to implement a strategy based upon a partnership with other core players in the product-sector industry (the stock exchange in Rosario) that eventually shaped the functional-cognitive institutions (operational routines and the way technology was used) of the product-sector financial industry. Moreover, Investarg also realised that it was necessary to shape not only the institutions of the product-sector industry, but also some of the institutions of the overall socio-political environment, in order to make the introduction of digital financial business models more favourable.

When faced with the challenge of engaging with the socio-political environment, Investarg realised that its prospects for success would improve by joining forces with DSs with similar interests, and therefore, the e-entrepreneur initiated informal partnerships that created an industry association, eventually incorporated as ASEA (Argentinean Association of Entrepreneurs). The initial objective of the association was to provide a united response for DSs to initiate changes in regulations; however, the creation of a digital industry association has
also played a role in the development of the digital industry’s own institutions, which now provide DSs with a common identity and shared mind set, which promotes collaboration, as this e-entrepreneur explained:

There is a digital sector… the entrepreneurs in this case… are coming together to try to change that environment when something prevents the potential development of the group. (Affiliarg)

Since then, ASEA has influenced regulations in order to make them more favourable to e-entrepreneurship, tackling issues ranging from the time it takes to open a firm in Argentina to the way bankruptcy is regulated. By becoming a leading founder of ASEA, the e-entrepreneur spoken to here was also able to shape the institutions of the digital industry regime in a way that has been favourable not only to Investarg, but to other DSs as well.

Vignette 6.2 illustrates how the digital business model of a DS can challenge functional-cognitive institutions in the product-sector industry. It is clear that even when core firms do not regard a DS as a strong competitor, as illustrated in the case of Optocol (Vignette 5.3), new technologies and digital business models introduced by the DSs can be regarded as contrary to the interests of the core firms. Nevertheless, as discussed in Section 5.2.4.2, product-sector core firms do not always try to block the entrance of a DS; and in most instances core firms simply ignored them. However, there are also instances where core firms are keen to integrate the innovation offered by the DS. The nature of the response from the product-sector industry determines the strategy that DSs implement towards the product-sector industry regime, whether intervention to counteract an aggressive blocking from core firms, partnerships, or a neutral stance.
Vignette 6.2 provides an example of how DSs can intervene to counteract aggressive blocking from core firms, with Investarg taking action as a response to the core firms’ attempt to prevent it entering the stock market in Buenos Aires. In a similar way, Vignette 5.3 illustrates how Optocol had to intervene when the core firms leveraged lawyers, lobbied policy makers and undertook negative marketing to try to stop it from entering the industry.

Vignette 6.2 also provides an example of partnering, describing how Investarg partnered with the stock market of Rosario in order to surmount the stock market in Buenos Aires, clearly demonstrating how product-sector core firms can integrate the technology of a DS into their own products, to differentiate in the industry. Similarly, Vignette 5.2 illustrates how Advertarg established partnerships to complement the core product-sector firms’ existing capabilities. These partnerships had two main benefits for the DSs concerned: they served as a deterrent to potential negative action from other product-sector core firms, and they provided the resources necessary to pursue changes in regulation or industry practices that could favour the adoption of the DS’s product, as this e-entrepreneur explained:

We are speaking with [core firms] explaining that we can have a relationship and we can be their online arm… the co-branding gives me legitimacy… and, through technology we change things together. (Trainlatam)

However, in most cases scrutinised in the course of this study, product-sector core firms simply ignored the entrance of DSs, leading e-entrepreneurs to adopt a neutral position. For these e-entrepreneurs, there appeared no obvious need to develop strategies towards the hybrid industry regime. This accelerator
manager explained that only two out of the seventy DSs they had supported had faced strong pressures from core firms:

That is, the truth is that sixty eight out of seventy have not had any strong problem in this sense… that make us believe that we are not going to see that so often. (Accelmex)

From these findings, it can be concluded that whilst the majority of DSs do not experience significant pressures from the hybrid industry regime at the initial stage, DSs with a disruptive business model, such as Investarg (Vignette 6.2) would benefit from considering at its inception how their business model may threaten the institutions of the product-sector industry regime and then anticipate how core firms located in the product-sector industry could likely react to their entry.

When considering externally-oriented strategies towards the economic environment, this study uncovered evidence of DSs being able to shape the institutions of the economic environment in order to improve their relationships with customers and investors. Four of the DS cases in this study (Insurarg, Investarg, Langlatam and Finanmex) had to change the previously institutionalised behaviours of their target customers in an attempt to convince them to adopt their digital products or services. In these instances, whilst customers often held fixed ideas regarding the best way to meet their needs, the DSs offered a clear value proposition that encouraged customers to try something new; instituting strategies aimed at improving potential customers’ perceptions of the trustworthiness and likely benefits of the underlying digital technology. Investarg provides a clear example of how a company can successfully invest in
customer education. As discussed in Vignette 6.2, Investarg sought to penetrate a market that had never previously invested in the stock market, and which was unfamiliar with digital financial services. In order to facilitate adoption from this market, it made the decision to build and promote a free online service designed to educate its customers about basic financial concepts, via the interface of an online game. By interacting with this online game-based platform, customers could explore how the online investment brokerage service worked, helping potential customers to feel more confident about investing real money, as the e-entrepreneur explained:

People were interested, but they did not have enough tools to start using this service. So, we put together a business unit focused on education [that] basically teaches what this alternative is about… which goes from how to invest in the stock exchange… up to investment analysis with options and derivatives… we had to develop a whole new context, so that the new market we were trying to reach could have access to this type of product. (Investarg)

Other DSs spoken to in the course of this research similarly realised that in addition to educating potential customers about the benefits of their digital product, they also needed to change the mind set of their potential customers regarding the relative risks and benefits of e-commerce. These DSs leveraged traditional offline marketing and public relations tactics to educate potential customers on the use and trustworthiness of technology, as this e-entrepreneur explained:

It has cost us a lot for [customers] to trust us… we have implemented a very big communication strategy aimed to explain the service and build trust. (Finanmex)
Coupled with their own efforts, DSs often received support from digital industry associations designed to promote e-commerce adoption amongst consumers. As an example, some Mexican DSs and core firms in the Mexican digital industry launched a united campaign to encourage customers to buy products and services online. This campaign sought to replicate the North American phenomenon of Cyber Monday, a day where e-commerce portals offer heavily discounted products to consumers, as this accelerator manager explained:

All the start-ups that have to do with e-commerce... in some way are trying to convince people that they can buy online... so, the association of e-commerce businesses is now organising something like Cyber Monday, but in Mexico. (Accelmex)

Both DSs and accelerators concurred that this externally-oriented strategy offered positive results, both in customer adoption and in building the legitimacy of participating firms, their products, and e-commerce as a platform.

In addition to their relationships with customers, some DSs also faced the dilemma of having to overcome negative attitudes from investors, which was affecting their ability to secure funding. Both DSs and accelerators revealed that they had had to convince local investors that investing in DSs was more desirable than traditional investments, as this e-entrepreneur explained:

You often have to deal with non-sophisticated investors... and in some way, the digital enterprises play a role of educators, or guides. (Affiliarg)

When dealing directly with investors, DSs in this position had to dedicate time and resources in educating potential investors regarding the new financial concepts applicable to the investment vehicles in DSs, valuation tools, and risk-
benefit analysis. Some accelerators supported the DSs through more formal programmes, designed to give potential investors the tools necessary to invest in DSs, as this accelerator manager explained:

We also have to work on waking up the angel investors… there is an effort dedicated to do events to train angel investors, to learn about what the methodology is, what the risks of this kind of investment are, etc. (Accelarg)

Such programmes included providing testimonials from experienced investors and successful e-entrepreneurs, designed to increase the confidence of new investors and to lower their perceptions of risk. As an example, one accelerator manager volunteered to act as a mentor for potential angel investors in a programme sponsored by both accelerators and DSs:

I can see it with [this programme] because I am a mentor, I have been a mentor for two generations and good teams of [angel investors] have already come out from it. (Mexaccel)

As in the Mexaccel example, other accelerators and investors participating in this study indicated that such educational efforts are having a positive result in growing the pool of potential investors, and consequently the findings support the assertion that DSs can implement externally-oriented strategies towards the economic environment in order to shape institutions, affecting their relationships with both customers and investors. The DSs have utilised a number of measures to do so, including offline communications, marketing campaigns, targeted digital media outlets, public relations tools, digital industry associations, and the assistance of accelerators to offer targeted educational programmes.
Section 5.2.5 discussed how some Latin American e-entrepreneurs had the support of digital industry associations in promoting policies and regulations favourable to DSs. As an illustration, this e-entrepreneur explained how important the entrepreneurs’ association in Argentina (ASEA) was to be able to have an impact on formal-regulative institutions:

An entrepreneur may not be able to change the rules in Argentina because he does not have the power... so the vision of ASEA with [membership of] one hundred Argentinean entrepreneurs is to give the entrepreneurs that voice and that vote. (Agroarg)

Some interviewees readily acknowledged that the recently created digital industry associations have already had positive results in shaping formal-regulative institutions, as this e-entrepreneur explained:

There is a new law... promoted by the Entrepreneurs Association, to open a new business in 24 hours... There was another initiative to lower the taxes that a business has to pay at the beginning, and as you grow, your taxes increase... another law we want to change will give new businesses more flexibility for bankruptcy... so if I fail to build my business within 24 months and I have to close, I will not be punished; because today the bankruptcy laws are too perverse and complex. (Investarg)

This shows how DSs, through the use of digital industry associations, can change the socio-political environment with strategic intent, with accelerators also joining with the efforts of DSs in order to make the formal-regulative institutions more favourable for DSs, by establishing direct contact with governments and policy makers, as this accelerator manager explained:

We have been strong actors [in] giving our opinion, helping with research and ultimately influencing the way the government is trying to support entrepreneurship... with the intention of generating favourable programmes and public policies... I do not believe we have moved the world, but at least we pushed it a little. (Accelmex)
The study also identified instances where other actors in the organisational field (accelerators, investors and core firms), who already held legitimacy in the socio-political environment, worked together to lobby for a specific regulative agenda favourable to the DSs. This government official explained how they are working with entrepreneurs, accelerators, investors, and core firms to design a regulatory framework to promote e-entrepreneurship:

We are working [on] a plan to change the regulatory framework... we are working on that with the entrepreneurs and with different groups, including accelerators, investors and large corporations. (Govarg)

This study therefore reveals how DSs can shape the socio-political environment, with externally-oriented strategies implemented in partnership with digital industry associations or other actors in the organisational field, to engage with government agencies and represent the common interests of DSs in the design of public policies and regulations.

As Vignettes 5.3 and 6.3 illustrate, the DSs in this study who implemented externally-oriented strategies to shape institutions, followed a similar process, whereby DSs processed information coming from the institutional environment, learned from it, and then chose a path of action. They each experienced pressure from the environment that prevented them from implementing their business model and had to understand why the institutional environment was imposing such pressures; before evaluating whether adapting through internally-oriented strategies could overcome the problem. Once the decision had been made that their business model instead required an externally-oriented action, they once again evaluated their options, using the lessons gained from their recent
experience to design and implement a new externally-oriented strategy; before finally considering the outcome and comparing it with their original intent. This decision-making mechanism is best illustrated by the strategic choice loop (Figure 6.2), captured in the TEF.

![Strategic Choice Loop](image)

**Figure 6.2 – Strategic Choice Loop, adapted from Child (1997)**

As discussed in Section 3.3.1, the strategic choice loop has similarities to the BML cycle; however, the findings of this research suggest that while the BML cycle can adequately explain how DSs design internally-oriented strategies, the strategic choice loop can better explain the mechanism followed by LADSs to define externally-oriented strategies, as the BML cycle focuses on internal capabilities, whilst the strategic choice loop refers to the overall interaction between the firm and its environment. Thus, in accordance with Geels (2014), Figure 6.3 illustrates how DSs can follow three parallel strategic choice loops to define externally-oriented strategies towards the hybrid industry regime, the economic and the socio-political environment. Whilst DSs did not need to define strategies towards each of these environments, they were in constant interaction.
with their institutions, meaning that if the pressures were sufficient to affect their performance, DSs engaged in this strategic definition process, consistent with the stages of the strategic reorientation process proposed by Geels (2014).

Some DSs that had implemented externally-oriented strategies acknowledged that LSM did not enable them to effectively identify the wide range of institutional pressures that could affect them, and as a consequence it failed to help them to devise strategies to overcome these pressures. The comments from this accelerator manager illustrate the gap between the strategic definition framework and the reality that DSs face:

We tell [DSs] to not be worried about any of that [environment]… But the problem is that it is easier said than done… Nobody starts [out] saying: “I am going to change the public opinion about Internet payments, about

Figure 6.3 – The Three Strategic Choice Loops of DSs, adapted from Geels (2014; p. 273)
infrastructure, and about all those things”; but, after spending your money in marketing here and there, you realise that if you cannot change public opinion and convince people that it is secure to buy things in the Internet, you would not do well... So sooner or later you decide to start doing something about it. (Accelmex)

This finding suggests that many DSs at the early stages of building their business models take the environment for granted, regarding it as a constant rather than as a variable that can be changed. One possible explanation for this assumption lies in the fact that LSM does not include the constructs necessary to recognise institutional pressures outside of the economic environment. Another potential explanation is that e-entrepreneurs and accelerator managers consider externally-oriented strategies as being beyond the reach of DSs at the early stage, as this accelerator manager explained:

I cannot think of an example where the company itself in an initial stage generates a change in the context; on the contrary I say that to guarantee their subsistence, the technology enterprises have first to solve problems based on existing habits and not to change existing habits... I think that generating changes of context, or changes of habits, is intended for larger companies that can invest and can have three, five or seven-year strategic plans. (Accelatam)

The evidence also supports the finding that institutional pressures may eventually push a DS to consider implementing externally-oriented strategies, and therefore, a framework that offers DSs the tools needed to anticipate such pressures could help e-entrepreneurs take necessary precautions, as this e-entrepreneur recognised:

If we had been more pro-active, I think that the results would have suddenly been different... I think that if one [could] add the environmental factors, it could help build a more effective business model. (Optocol)
This section has demonstrated how the TEF, through the constructs of three parallel strategic choice loops directed towards the hybrid industry regime, the economic and the socio-political environments, could respond to such a need.

6.4 Summary

This chapter has presented the findings that pertain to the second research question, analysing how DSs exercise agency in order to seize business opportunities and overcome challenges in the Latin American institutional environment. It identified key shortcomings of the LSM, and discussed how the constructs of the TEF can improve the strategic definition of DSs who are adapting to the pressures of the institutional environment, whether through internally-oriented or externally-oriented strategies.

The chapter analysed how LADSs have adopted LSM to build their business model, but also provided evidence identifying weaknesses in LSM when attempting to achieve a fit with the institutional environment. In response, it was proposed that incorporating constructs from the TEF could help enhance the definition of internally-oriented strategies.

The chapter also considered evidence supporting the assertion that firms may choose their environment, or shape the institutions of their environment with strategic intent. It discussed how environment selection is enabled by multi-levelness in the organisational field, and the core-periphery relationships between the organisational fields of the United States and Latin America. The section also provided examples of strategies that DSs have implemented to shape the Latin American hybrid industry regime, the economic and the socio-political
environments; before finally discussing the mechanisms employed by DSs to correctly identify pressures emerging from the institutional environment, evaluate possible responses, and implement an appropriate course of action. The concept of three parallel strategic choice loops directed to the three environments in the TEF was introduced to illustrate this decision-making process.

This study contributes to the TEF, strategic choice and institutional entrepreneurship frameworks by providing empirical evidence that peripheral firms, such as DSs, not only adapt to, but can also shape their institutional environment.

The concluding chapter will advance the extensions proposed to LSM first introduced in this chapter.
Chapter 7

Conclusion

7.1 Introduction

This chapter summarises the key research findings of this study, presenting practical and theoretical contributions, acknowledging limitations and offering suggestions for how future research could continue to expand our understanding surrounding the social phenomenon of e-entrepreneurship in Latin America and other emerging economies.

7.2 Contributions to Knowledge

In Chapter 1, two questions were set out to guide this research:

1. How does the institutional environment influence the development of LADSs?
2. How do LADSs respond to the institutional environment in support of their business models?

In responding to these questions, the study gained a better understanding of the interactions between the LADSs and their environment, and explained why the TEF, with some adjustments, could be a valuable tool to assist LADSs build business models that fit their institutional environment. This section reviews the main contributions to knowledge resulting from this research and its implications to practice, theory and research methodology.
7.2.1 Contributions to practice

This section considers how the findings from this research may contribute to the practice of different actors in the LADSs’ organisational field, namely e-entrepreneurs, accelerators and policy makers.

The empirical evidence identified that LADSs rely heavily on functional-cognitive frameworks developed in the United States, such as LSM and BMC, to define their strategies; however, such frameworks fail to acknowledge the complex multi-level and bi-directional interactions that LADSs have with their environment. Chapter 6 discussed how BMC focuses on nine building blocks that are exclusively related to the relationship that exists between DSs and the economic environment, and the findings of this research suggest that BMC could be expanded to include additional institutional environment constructs from the TEF in order to improve the business model definition in LADSs. Similarly, LSM stipulates that DSs should aim for product-market-fit by adapting to the economic environment through the adoption of internally-oriented strategies that reflect progressive adjustments to their business model. In this way, LSM ignores any alternative externally-oriented strategies that the LADSs may pursue in order to achieve a more comprehensive firm-environment-fit; and therefore it is asserted that the findings of this research also support that a TEF-based framework, including three parallel strategic choice loops directed towards the three environments in which LADSs are embedded (hybrid industry regime, economic and socio-political) could better enable them to anticipate a broader set of environmental pressures, and to proactively define externally-oriented strategies to improve their fit with the environment.
It is therefore proposed that LADSs should enhance the development of their business models and the appropriate definition of internally-oriented strategies by incorporating some of the constructs contained in the TEF. As discussed in Section 6.2, this study revealed that LADSs following LSM used the BMC to define their business model, and as a consequence, tended to focus on their relationships with customers, investors and partners, whilst devoting little or no attention to other pressures arising from the institutional environment, until they became too strong to ignore. It is therefore suggested that the nine building blocks of the BMC be expanded to incorporate relationships between DSs and their investors, macroeconomic factors, and the wider relationships between DSs, the hybrid industry regime and the socio-political environment. Figure 7.1 provides a TEF-based BMC that incorporates these additional elements.

Figure 7.1 – TEF-based BMC, adapted from Osterwalder & Pigneur (2010)
The BMC already considers the relationships that exist between DSs, their customers and partners in the original nine building blocks provided by Osterwalder & Pigneur (2010); however, the TEF-based BMC proposed by this research adds two additional building blocks to this typology, to take into account the hypotheses regarding the relationship with investors, along with wider macroeconomic factors, which has a significant impact on the development of LADSs, as discussed in detail in Section 5.3. Similarly, the additional dimensions of hybrid industry regime and socio-political environment could usefully incorporate the other institutions and actors that impact the LADSs, as discussed in Sections 5.2 and 5.4 respectively.

Adopting such a revised framework would allow DSs to define their business model hypotheses in relation to each of these new building blocks, testing them through each BML cycle in the same way as they currently do. By simply acknowledging these relationships with the wider institutional environment from the outset, a TEF-based BMC could compensate for the shortcomings of LSM by anticipating the needs of LADSs at different stages of their development.

At the initial stage of development, some DSs may feel that managing numerous variables in a TEF-based BMC may introduce an unnecessary degree of complexity; however, even if not used in its entirety at the outset, simply acknowledging the existence of these variables could achieve two important benefits. Firstly, it would provide DSs with a greater awareness of the pressures that the institutional environment could exert upon them, enabling them to devise potential strategies in response, along with the resources required to do so. Secondly, it would offer DSs a consistent framework that could support the
definition of internally-oriented strategies, not only at the customer discovery and validation stages, but also during the customer creation and company building phases. As discussed in Chapter 6, as DSs grow, they often face incremental pressures arising from the environment, and therefore a TEF-based BMC would provide a lens with which to view all of the elements of the business model that could eventually be impacted in the course of their development. Such a framework would expand the concept of product-market-fit to one providing a more comprehensive objective of reaching environmental fitness, which could be referred to as firm-environment-fit.

In addition to the TEF-based BMC, it is also proposed that the DSs could improve their strategic definition by expanding LSM with the additional elements of the TEF and the new constructs identified in this research. Figure 7.2 illustrates an alternative strategy definition framework, which has been titled Digital Multiple Embeddedness (DIME), which accommodates the praxis of DSs by following LSM, and expands it to accommodate the constructs of the TEF-based BMC, in order to guide internally-oriented strategies through the various BML cycles, and externally-oriented strategies through three strategic-choice-loops towards the hybrid-industry regime, the economic and the socio-political environment; with the BML cycles and strategic choice loops assumed to be concurrent. Both the internally-oriented BML cycles and the externally-oriented strategic-choice-loops drive progressive adjustments of the business model, absorbing the hypotheses in the TEF-based BMC to include the larger set of relationships that exist between the DSs and their institutional environment. It is proposed that DSs following the DIME framework could better decipher and reconcile the different pressures
emanating from the institutional environment, allowing them to formulate the most appropriate response, whether by adopting internally-oriented or externally-oriented strategies, whilst also ensuring coherence among the different elements of their business model. Table 7.1 summarises how the DIME builds on the TEF and LSM to provide a more comprehensive strategy definition framework for DSs in emerging economies.

![Figure 7.2 –Digital multiple embeddedness framework (DIME)](image_url)

Table 7.1
### Table 7.1 – DIME enhancements to the TEF and LSM

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<th>Framework</th>
<th>DIME enhancements for strategic definition of LADSs</th>
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| **TEF**   | • Multiple-embeddedness: The DIME adapts the TEF to the digital properties of the DS by replacing the industry regime with a hybrid industry regime, and by recognising the multi-levelness of the organisational field.  
  o Hybridity: The DIME incorporates the structure of a hybrid industry regime in which DSs reconcile the institutional pressures from a product-sector industry and a digital industry.  
  o Multi-levelness: The DIME acknowledges that DSs may experience different levels of embeddedness depending on whether they decide to operate at a local, national, or multinational level.  
• Internally-oriented strategies: The DIME replaces the strategic reorientation process of LSM as the mechanism through which DSs build their business model, reflecting their internal oriented strategies to exploit the business opportunities created by the environment and adapt to the pressures from that environment to conform to existing institutions.  
• Externally-oriented strategies: The DIME preserves the strategic-choice-loop in the TEF as the mechanism through which DSs design externally-oriented strategies. Three strategic-choice-loops are modelled towards each of the three environment blocks: hybrid industry regime, economic and socio-political.  |
| **LSM**   | • The DIME preserves the main constructs of LSM: BMC and BML, enhancing them with elements from the TEF to recognise the institutional environment differences between mature and emerging economies.  
• LSM focuses on the design of internally-oriented strategies reflected in a given business model, whilst the DIME expands this focus to incorporate the possibility of also designing externally-oriented strategies.  
• In the DIME, the goal of the DS shifts from achieving product-market-fit to attaining firm-environment-fit, with the latter being inclusive of the former.  
• The DIME expands the original nine building blocks of the BMC to incorporate the relationships between the DS and the institutional environment in the business model.  
• The new TEF-based BMC expands the original nine building blocks with the inclusion of two additional elements (investors/capital structure and macroeconomic factors), creating an economic environment macro block, adding two macro blocks in relation to the hybrid industry regime and the socio-political environment.  
• The BML cycles are followed to design internally-oriented strategies, recognising that the business model may be adjusted as the hypotheses related to the DS’s relationship with the hybrid industry regime, the economic and the socio-political environment are tested.  
• In each BML iteration, the DS would test the hypotheses in each of the TEF-based BMC building blocks.  |
The benefits accrued to LADSs as a consequence of employing the DIME for business model and strategic definition are potentially multiple. The first benefit would be the maintenance of a consistent framework across all stages of development, from the initial business idea to company building. Contrary to the LSM literature, which fails to consider the environmental pressures commonly experienced by firms at the later stages (as discussed in Chapter 6), the DIME would provide e-entrepreneurs with a more comprehensive account of the factors that can affect a DS’s business model. As discussed in Section 5.2.4, as industries mature and firms move from the periphery to the core, institutional pressures increase, consistent with the literature on institutional theory (Scott, 2014; Stringfellow & Maclean, 2014); and therefore, as DSs move from the periphery to the core, their relationships with the institutions in the hybrid industry regime and the socio-political environment increase in scope and strength; and the DIME would prove useful in guiding DSs not only through the inception stage, but also through the transition to maturity, by providing a comprehensive model of the potential pressures arising from the environment that could affect the business model at different stages. For example, DSs like Insurarg and Langlatam, who are transitioning from being DSs to becoming sustainable digital businesses, claimed that they are now facing institutional pressures that they had not encountered when they were smaller firms.

A second benefit arising from this expanded conceptualisation would be to develop e-entrepreneurs’ understanding of how changes in the relationship between a DS and an actor, or an institution, in the multi-level organisational field can affect other relationships, which is once again consistent with studies of digital
embeddedness (Henderson et al., 2002; Warschauer, 2004). Consequently, the multi-level constructs of the DIME could assist DSs in anticipating the resources and partnerships necessary to respond to changes in the organisational field occurring at other levels. For example, a DS like Marketarg (discussed in Section 6.2.3) would have benefited from the DIME, by fostering an awareness of the pressures emanating from the socio-political environment that were driving changes in the formal-regulative institutions protecting intellectual property in different countries, that ultimately affected its business model, allowing them to devise potential alternative strategies at an earlier stage.

A third benefit to e-entrepreneurs arising from this framework is the potential for an expanded set of strategic alternatives to effectively respond to pressures emanating from the environment, by adding externally-oriented strategies to the range of possible responses, consistent with the literature on institutional entrepreneurship (Beckert, 1999; Garud et al., 2007; Sandbrook, 2011). An awareness and operationalisation of the strategic-choice-loop to monitor pressures from the environment could improve the ability of DSs to either find a new environment, or define the right strategy with which to shape the institutions that would improve their fit with the environment. For example, DSs such as Databra would have benefited enormously if they had been able to select the most appropriate environment for their particular business model at the outset; and other DSs, like Investarg, could have taken better strategic decisions to shape the endogenous institutions of the product-sector industry, whilst also leveraging digital industry associations in order to better influence the socio-political environment.
A fourth benefit of this framework to e-entrepreneurs is greater incremental visibility regarding the opportunities and challenges inherent to being embedded in a hybrid industry regime. This expands the findings from Avgerou & Li (2013), by recognising that DSs may leverage some institutions of these product-sector industry and digital industry regimes in order to proactively minimise conflict between the two and thus maximise market differentiation. For example, a DS like Optocol would have benefited enormously from the DIME, enabling it to anticipate potential reactions from core firms and institutions of the product-sector industry before deciding to enter the market.

A final possible benefit for e-entrepreneurs comes from the ability to model the potential consequence of moving between levels of the organisational field (local, national, multi-national). For whilst studies on the internationalisation of DSs have identified some aspects that DSs must consider in any possible expansion (Huang et al., 2017; Pathak et al., 2014; Pezderka et al., 2012; Reuber & Fischer, 2011), the DIME provides a detailed framework designed to enable DSs to identify the institutional pressures at different levels that need to be reconciled in their business model before committing to local, national or multi-national expansion. As illustrated in the instance of Langlatam, which relied on environment selection, first to escape the institutional constraints of its home country and then to internationalise across Latin America, the DS could have benefited from the DIME to reconcile the different institutional environments in which it operates in order to adapt its business model to the institutions of each country ensuring that the strength arising from its local embeddedness was not lost.
This study also makes a practical contribution to the work undertaken by accelerators, who could consider incorporating the DIME into their existing training and mentoring programmes. Whilst this research supports the finding that accelerators largely prefer to focus on internally-oriented strategies (Carayannis & von Zedtwitz, 2005; Carmel & Richman, 2013; Carvalho, 2016), it also uncovered instances where accelerators could usefully support DSs in their implementation of externally-oriented strategies through marketing and lobbying initiatives, and by educating other actors in the organisational field (e.g. investors, core firms in the product-sector industry, government officials).

Finally, the study may also assist the practice of policy makers responsible for the design of support programmes aimed at fostering the development of LADSs. Whilst many of these programmes include the dissemination of frameworks such as LSM (Cervantes & Nardi, 2012; Chassagne, 2015; Kantis et al., 2012), this study has shown that such programmes often fail to meet the needs of DSs operating out of emerging economies. It is therefore suggested that the DIME could enhance such schemes, by providing e-entrepreneurs with a new perspective, which considers the institutional environment realities faced by DSs. Some studies have already provided policy makers with the tools necessary to identify the formal-regulative institutions and intervention policies that may improve the development of DSs (Kantis et al., 2012; Katz, 2015; Katz et al., 2013); however, it should be remembered that these studies have not considered the role that the DSs themselves may have in shaping the socio-political institutions in their favour, and as such, it is suggested that policy makers consider expanding their support programmes in order to provide DSs with greater direct
access to specific government agencies, along with digital industry associations interested in shaping formal-regulative institutions.

7.2.2 Theoretical contributions of this research

This section summarises how the findings presented in Chapters 5 and 6 enhance the TEF as a theoretical framework to study DSs, and how this research has sought to address some of the gaps in the literature identified in Chapter 2.

7.2.2.1 Enhancements to the TEF as a theoretical framework to study DSs

This research moves beyond Geels’s (2014) original objective to analyse core firms in established industries, adapting the TEF as a theoretical framework in order to better accommodate the specific needs of DSs, both as peripheral firms and as digital firms in a hybrid industry regime. The research found that, with some enhancements, the TEF could help explain key structures that both constrain and enable DSs in emerging economies, along with the mechanisms that are usefully employed by DSs to respond to the pressures arising from their institutional environment. Such enhancements were found to be necessary in order to better account for the digital properties of the DSs (summarised in Table 2.2), which operate in a hybrid industry regime and a multi-level organisational field; and which follow a combination of internally-oriented strategies (supported by LSM) and externally-oriented strategies to effectively build their business models.

The first theoretical contribution made by this research to the TEF lies in its conceptualisation of a hybrid industry regime that, as discussed in Section 5.2.3, proposes that DSs are simultaneously embedded in a product-sector
industry and a digital industry, with their own endogenous institutions, leaving the
DSs to reconcile the institutional pressures emanating from these two industries
to build their legitimacy and determine the appropriate combination of cognitive
frameworks and resources to differentiate.

The second theoretical contribution made to the TEF by this research is
the conceptualisation of a multi-level organisational field that, as discussed in
Section 5.2.2, proposes that DSs are part of an organisational field with actors
(e.g. DSs, accelerators, investors, government agencies, customers, partners,
industry associations, etc.) that are nested in three geographical levels: local,
national and multi-national. Actors operating at the local and national levels are
similarly embedded in the three environments conceptualised in the TEF, namely
the hybrid industry regime (vertical embeddedness), and economic and socio-
political (horizontal embeddedness). Actors operating at a multi-national level
remain subject to institutional pressures arising from the national organisational
fields in which they operate; although the digital properties of DSs allow them to
be partially dis-embedded from some of these institutions, and also facilitate
access to actors and resources located in other organisational fields (e.g. the
United States).

The third theoretical contribution made to the TEF expands the construct
of core-periphery relationships from the position of firms in an industry to consider
the position of organisational fields at the multi-national level of the institutional
environment. This research supports the TEF’s conceptualisation of firms in
relation to their position in the industry as being core, middle or peripheral, and
draws on the TEF to further conceptualise DSs as peripheral firms in relation to
more established organisations, which are described as core firms in either the product-sector or the digital industry. The TEF further suggests that the position of a firm in relation to the industry regime determines whether that firm is an institution taker or an institution maker. This research found empirical evidence to support the TEF’s conceptualisation of core firms as having the ability to make and enforce institutions, and of DSs as peripheral firms that are new entrants strongly influenced by existing institutions. This study also found that because of their hybridity, DSs could also adopt technical and cognitive frameworks from the digital industry to deviate (to a degree) from certain institutions in the product-sector industry. In some cases, the core firms in the product-sector industry reacted to this challenge with blocking strategies, in an attempt to prevent the entrance of DSs; whilst in other instances, core firms sought to acquire or partner with DSs to gain a competitive advantage; with other core firms simply choosing to ignore the entrance of DSs into the industry. As anticipated by the TEF, this research also found evidence that relationships within the industry regime changed as the DSs moved from the periphery to the core. When considering the digital regime, DSs acquired more influence over other DSs as they grew, expanding the TEF by conceptualising core-periphery relationships among DSs and other firms as occurring simultaneously in a product-sector and a digital industry regime. Moreover, the existing TEF does not recognise the role of position between organisational fields, and as presented in Section 5.2.4, this research found evidence to support the conceptualisation of the organisational field of Latin America as peripheral to the United States, defining Latin America as an institution and resource taker in relation to the United States.
The fourth theoretical contribution to the TEF made by this study is the suggested substitution of the strategic reorientation process intrinsic to LSM with a TEF-based BMC as the mechanism through which DSs design internally-oriented strategies. Alternatively, the inclusion of LSM into the TEF could offer the opportunity for LSM to expand its narrow focus on internally-oriented strategies towards the economic environment by including constructs enabling the design of internally-oriented strategies directed towards the hybrid industry and socio-political environment, as well as in designing externally-oriented strategies. In this way, this study offers the first empirical research designed to support the TEF, with the enhancements outlined, as an alternative theoretical framework for researchers investigating e-entrepreneurship in emerging economies.

7.2.2.2 Resolution of agency and environment perspectives on e-entrepreneurship in emerging economies

As reflected in Table 2.9, the main gaps identified in the literature were related to the scarcity of empirical studies considering e-entrepreneurship in the context of emerging economies in general, and to the lack of empirical studies that incorporate Agency and Environment perspectives to explain the development of LADSs in particular.

This research answers to the different calls for more empirical studies on e-entrepreneurship (Matlay, 2004; Nambisan, 2016; Huang et al., 2017), particularly in the context in Latin America (Caride, 2016; Kantis et al., 2012; Katz, 2015), and specially to Matlay (2004)’s call for reconciling agency and environmental factors in e-entrepreneurship. It does so by applying the TEF for
the first time in order to analyse the relationship between LADSs and their environment. In the process of answering the research questions, the study provided empirical support for some of the structures (e.g. institutional pillars and triple embeddedness) and mechanisms (e.g. institutional pressures, internally-oriented and externally-oriented strategies, lock-in mechanisms and variation mechanisms) proposed by the TEF, whilst also uncovering new constructs (e.g. hybrid industry regime, multi-levelness, and the core-periphery relationships between organisational fields) relevant to the understanding of the bi-directional relationships between the LADSs and their environment.

The literature did not address the influence of the Latin American institutional environment on the development of DSs. This study provides empirical evidence of how functional-cognitive, cultural-cognitive, normative, and formal-regulative institutions impose pressures on DSs to conform to an established way of doing things in Latin America. In this way, the study expands the work of Avgerou & Li (2013) on e-entrepreneurship in emerging economies, by adding to the notion of dual cultural embeddedness in a virtual / digital and a geographical / physical community, the concept of DSs multiple embeddedness in an institutional environment, comprised of a hybrid industry regime, an economic and a socio-political environment.

The literature did not consider whether the relationships between DSs and their institutional environment vary depending on whether DSs operate at a local, national, or multi-national level. This research builds on studies that found that the digital economy is constrained by its geographical embeddedness (Henderson et al., 2002; Warschauer, 2004); and those that propose that digital
technologies have enabled firms to escape their embeddedness in a particular environment (Freidman, 2005), by suggesting that DSs can strategically choose to operate with different levels of institutional embeddedness, or dis-embeddedness, depending on their business model (Quinones et al., 2017). The evidence presented here found that the LADSs’ organisational field is nested in three institutional levels – local, national and multinational – and that the LADSs may be affected, to a greater or lesser extent, by their geographical embeddedness, depending on their preferred business model. It became clear that whilst some LADSs devised their business models based on the opportunities offered by their local embeddedness, others used their digital properties to escape the local institutional environment, instead offering a digital product to customers located in multiple countries.

The literature had already recognised the influence that actors in the organisational field of the United States had over the LADSs, but did not offer a theoretical construct to analyse such relationships. The findings presented here expand the work of Isenberg (2011), who proposed that the organisations and institutions of the United States have a disproportionate influence over the ecosystems of DSs around the world, an assertion which has been more recently corroborated by Startup Genome (2017) that found that all DSs’ ecosystems in emerging economies have very strong connections to the United States. This study introduces the constructs of core and periphery positions to analyse the relationship between the organisational fields of the United States and Latin America. There was strong evidence to support the view that the organisational fields of the Latin American countries that were the subject of this research can
be conceptualised as peripheral in relation to the United States. Whilst the former are institution and resource takers, the latter is an institution maker and a resource provider.

The literature offered a tangential perspective of the influence that the institutional environment has on the strategic choice of DSs in emerging economies. However, this study presents new empirical evidence of how DSs adapt to and change their environment through internally and externally-oriented strategies.

The study presents how DSs build and redefine their business models and adapt to the pressures emerging from the institutional environment through internally-oriented strategies, with empirical evidence that supports the institutionalisation of LSM as a common functional-cognitive framework in the Latin American digital industry regime. Nonetheless, this study also found that LADSs often had to implement internally-oriented strategies outside of LSM. These findings significantly enhance the currently limited literature on the implementation of LSM in Latin America (Chassagne, 2015; Martin, 2016; Sarmento, 2016), by highlighting important shortcomings in LSM when it is applied by LADSs; stressing the need to complement LSM with constructs from the TEF in order to help LADSs anticipate internally-oriented strategies and to enable them to adapt effectively to institutional pressures outside of the economic environment, where necessary.

Finally, the study presents how DSs implemented externally-oriented strategies to change their environment, either by environment selection (moving
to a different environment), or by institutional entrepreneurship (shaping their environment). This study illustrated how some DSs exercised strategic choice when selecting a new environment (which in some instances was a response to unfavourable conditions in the home environment, whilst in others was as a result of the growth process). In this way, this study expands previous studies of DSs' internationalisation (Huang et al., 2017; Pezderka & Sinkovics, 2011; Pezderka et al., 2012; Reuber & Fischer, 2011) by explaining internationalisation as a process of environment selection, which is enabled through the constructs of multi-levelness of the organisational field and core-periphery relationships between organisational fields. In addition, the study uncovered that neither DSs nor accelerators identified environment selection as a strategic alternative associated with LSM or to the other formal framework of strategic definition. Consequently, these findings build on the extant literature by highlighting that environment selection is an important aspect of strategic choice in a DS’s business model; and in doing so also uncovers another key shortcoming of LSM as a strategic definition framework. In some cases, DSs did not have the option of moving to a different environment. Nevertheless, this research found evidence of DSs that could shape the institutions of their hybrid-industry regime, economic and socio-political environments. While the literature on institutional entrepreneurship (Bruton et al., 2010; Garud et al., 2007; Scott, 2014) anticipated that firms can change their environment, this study builds on them by providing empirical evidence on their applicability to DSs. The externally-oriented strategies adopted to shape the environment varied; however, the process that DSs followed in order to define them was consistent with the strategic choice loop
conceptualised in the TEF. Therefore, the study contributes to the literature on institutional entrepreneurship in emerging economies, by explaining how LADSs can change their institutional environment following three parallel strategic choice loops directed towards the hybrid industry regime, the economic and the socio-political environments.

7.2.3 Methodological contributions

Whilst this research does not offer any discrete methodological contributions, it does seek to expand the limited empirical academic literature on e-entrepreneurship following a CR philosophical foundation, and also advocates the use of field study as a qualitative research tool in gathering evidence of complex social phenomena involving multi-directional, multi-level relationships amongst a variety of actors in an organisational field.

Jennings & Mole (2013) called for researchers to further develop the research agenda on entrepreneurship following a CR foundation. This study responds to this call by extending it to the specific area of e-entrepreneurship. Furthermore, and by following the guidelines outlined in Chapter 4, this research demonstrates how the ontological and epistemological elements of CR can be applied to operationalise co-evolutionary empirical studies. In this case, the research employs the basic constructs of causal powers (i.e. strategic choice), mechanisms (e.g. lock-in mechanisms, variation mechanisms) and structures (e.g. hybridity, multiple embeddedness, institutions) to explain processes of selection and adaptation.
A key challenge for researchers of complex social phenomena is the need to compromise between breadth and depth. Whilst case studies have become a widespread research method in social science, this research arguably contributes to the consideration of field study as an alternative means of data collection in situations where the organisational field is comprised of several organisations operating at different institutional levels. A qualitative field study as presented in this research, can enable researchers to capture with some depth the interpretations of the social reality from the perspective of a variety of actors in the organisational field, which may assist in uncovering emergent structures (such as hybridity and multi-levelness) and mechanisms (e.g. core-periphery relationships) that could remain otherwise undetected in a single case study. Furthermore, the triangulation of the field study data with direct observations helped to increase the depth in understanding of some social events, and validated the findings between the two research methods adopted. Consequently, the methodology followed in this study may contribute to future research where investigators face similar compromises.

7.3 Limitations of the Research

This section acknowledges the limitations of the study, and explores their possible impact on the validity and generalisability of its findings.

7.3.1 Operational limitations

This research studies the content and structural aspects of the TEF and LSM as strategic definition frameworks rather than their operational limitations. A number of authors have attempted to address the operational shortcomings of
LSM (such as objective metrics and the definition of decision-making processes), in order to provide DSs with more objective guidelines to enable them to decide when to move from one stage of development to the next, or when to increase investment (Björk et al., 2013; Ghorashi, 2015; Maurya, 2012; York & Danes, 2014); however, investigating the operationalisation of TEF, or the future implementation of the DIME framework would require a focus on the processes and sub-organisations internal to the firms studied here, which is at a level below the research unit of analysis of the firm as a whole that has been the focus of this study.

### 7.3.2 Generalisability

One of challenges that academics must face when studying e-entrepreneurship through co-evolutionary frameworks is identifying and analysing the various and multi-directional mechanisms affecting the complex social structures involved. In some systems, changes in structure resulting from social interactions may occur at too a slow pace, requiring researchers to be engaged in fieldwork for long periods. Thus, as Lewin & Volberda (1999) advise, social systems in which organisations are going through a relatively fast rate of change are better suited to co-evolutionary research. This is certainly the case for e-entrepreneurship in Latin America, where both DSs and the wider organisational field have experienced rapid changes during the period of this research. These rapid changes facilitated the identification of structures such as the emerging digital industry institutions, and of mechanisms like the core-periphery relationships between the organisational fields of the United States and Latin America.
However, consistent with its CR foundation, this research can only claim that its findings are subject to analytical and theoretical generalisability, for while the constructs identified in this research and its theoretical contributions may be applicable to other settings in emerging economies, there may be variations in both the structures (e.g. institutions and actors in the organisational field) and the mechanisms (e.g. the use of internally and externally-oriented strategies as variation and adaptation mechanisms) that affect DSs, and therefore alternative plausible explanations should be considered when analysing e-entrepreneurship in a different context.

This research uses empirical evidence to demonstrate that the TEF, when enhanced with the dimensions summarised earlier in this chapter, can offer a deep insight into how their institutional environment affects DSs, and how they can best respond to it. Nonetheless, the TEF remains what Gregor (2006) defined as a Type II theoretical framework intended to explain the how and why of certain events, and is therefore unable to offer general prescriptions or predict particular outcomes. Similarly, whilst it is argued that the DIME framework introduced earlier could potentially assist e-entrepreneurs in improving their firm-environment-fit, by giving DSs greater awareness about the impact that the institutional environment may have on their business models, it is not intended to be a comprehensive prescriptive framework for the development of DSs.

### 7.3.3 Methodological limitations

Following the critical evaluation of this research in undertaken in Section 4.6, this section discusses in more detail the limitations arising from the implementation of this research methodology.
The complexity of e-entrepreneurship as a social phenomenon in Latin America, coupled with the breadth of the TEF as a theoretical framework would have benefited from more extensive sampling across the organisational field for a longer period of time. Whilst the use of a field study as a methodology was useful in achieving a balance between the available time and resources, with breadth and depth facilitating a wider cross-instance analysis, it is recognised that the findings offer a single plausible explanation for the phenomenon observed, based on the actual sample taken at particular points in time. A longitudinal study with a larger sample size could thus uncover alternative mechanisms and structures only identifiable through a sequence of observable events undertaken over a longer period. Unfortunately, such a longitudinal approach was beyond the scope of this research.

The multi-level structure of the organisational field required analysis of the institutions and actors across several countries. The study addressed this requirement by conducting research across four Latin American countries. However, whilst this approach facilitated the analysis of how DSs interact with the environment at different levels, along with the identification of the core-periphery relationships between the organisational field of Latin America and the United States, it also diluted the potential to explore in more detail the specific institutions of each country investigated in the study. Whilst it is believed that the findings presented here capture at least some of the most common institutions affecting the DSs in Latin America, and that the sample reflects a wide enough range of selection and adaptation processes to be relevant in addressing the research questions, it is recognised that a larger sample from each country may enable
additional mechanisms and structures to be uncovered that are not currently identified in this research.

The opportunity to undertake theoretical triangulation as prescribed by Wynn & Williams (2012) in their guidelines for CR research was limited. The complexity and breadth of the TEF as a theoretical framework dominated the coding used in the analysis phase, limiting the inclusion of additional theoretical frameworks in the analysis. The only theoretical triangulation initiated in the analysis was between the TEF and LSM. While consideration of additional theoretical perspectives could offer other plausible explanations for the events studied in this research, Chapter 3 justified the use of the TEF as a strong theoretical foundation with which to address the research questions, especially as the TEF itself already incorporates a number of theoretical perspectives, ranging from institutional theory to strategic choice.

Another possible limitation of this research relates to the possibility of researcher bias. Whilst data collection, coding and analysis were largely undertaken by a single researcher, it is argued that the strict application of methodological guidelines in both research design and implementation should alleviate the potentially negative impact of researcher bias. The study benefited from constant reviews with research supervisors, which helped to incorporate additional perspectives during the analytical process. Similarly, the reviews received on the materials published from different segments of this research helped to incorporate additional and independent perspectives. Furthermore, the triangulation of findings through two qualitative research methods enhanced the validity of the findings; and whilst the addition of a quantitative research method
could possibly have strengthened this validity even further, limitations in time and resources made it impossible to implement a statistically significant survey at this time.

Finally, there is another potential bias in the findings, since all e-entrepreneurs interviewed were managing a DS still in operation, and consequently all had found ways to overcome the barriers that they had encountered until the interview occurred; and therefore, to further improve the reliability of the findings contained in this study, DSs that had proven unable to adapt to the demands and conditions presented here, and who had made the decision to close their operations could be added to the sample. Once again, limitations in terms of both time and access prevented this segment of the DSs population being consulted.

7.4 Potential Areas for Future Research

This research introduces the TEF, enhanced with some additional constructs, as a new theoretical lens with which to study the extensive relationships that DSs in emerging economies have with their institutional environment, and introduces the DIME as a strategic definition framework that e-entrepreneurs could adopt to support the development of their business model. However, as discussed above, empirical implementation and operational testing of the DIME fell outside of the scope of this research, and thus, future research could consider whether the use of the DIME does indeed help DSs to improve their firm-environment-fit and consequently their probability of success.
The multiple variables considered in the TEF, along with the multidirectional causalities associated with them, make it very challenging to identify and analyse all the possible social structures and mechanisms influencing the development of DSs. However, future longitudinal studies could help support the findings contained here, or indeed, discover alternative explanations that were not visible during the limited duration of this study. If the necessary time and funding were available to follow the development of the DSs identified here along their different stages of development, a better understanding could be gained of the institutions affecting the DSs at each stage, along with the respective variations in the intensity of institutional pressure, and the strategies employed by the DSs along the way to improve their fit with the environment.

Furthermore, as discussed in Section 5.4.2.1, the study found evidence that some of the capital returns obtained by the investors and e-entrepreneurs after reaching an exit were reinvested in the DSs’ Latin American organisational field (for example, in new DSs, via accelerators, or mentorship programmes). However, once again, it was beyond the scope of this research to study whether the economic gains of these transactions benefited only a few e-entrepreneurs and investors, or whether any such rewards were disseminated across the organisational field, the local and the national economies. Similarly, while the study identified a number of positive results emanating from government support programmes, it fell outside of the scope of this research to evaluate the relative success (or otherwise) of such schemes, or to judge the likely benefit accrued to taxpayers as a result of funding these programmes. Therefore, it seems relevant that future studies investigate the long term economic impact that the
development of DSs has in Latin America in terms of revenue and taxes, creation of high value jobs, development of intellectual capital, and the wider well-being of the societies in which DSs are embedded.

Whilst this study was specifically designed to consider the context of four Latin American countries, the findings contained in this research could prove a stepping-stone for future research in other Latin American countries and other emerging countries. Furthermore, it could be argued that a framework such as the DIME may also be relevant to e-entrepreneurs in mature economies who are going through a process of substantial institutional transformation, where the environment can no longer be taken for granted. In the six months prior to the submission of this thesis, events in the global economic and socio-political environments, such as the unexpected vote for departure of the United Kingdom from the European Union, or the rapid shifts in the socio-political environment in the United States are likely to have an as yet unknown impact.
## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Actor</td>
<td>Organisations (i.e. firms, governments, not-for-profits) or individuals with the property of agency that are part of an organisational field.</td>
</tr>
<tr>
<td>Adaptation</td>
<td>Actions taken by DSs in response to environmental pressures, directed towards improving a firm's fitness with the environment.</td>
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<tr>
<td>Agency</td>
<td>Refers to the ability of actor to make a choice and to take action on it (Child, 1997).</td>
</tr>
<tr>
<td>Causal power</td>
<td>The inherent potential of an entity, or a structure, to do certain things (and not others), arising from the nature of the entity or structure. Causal powers may be enacted or not.</td>
</tr>
<tr>
<td>Digital industry</td>
<td>The DS digital industry includes the population of all DSs, independently of their line of business.</td>
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<tr>
<td>Economic environment</td>
<td>Refers to the material aspects of the environment in which firms operate (e.g. markets, customers, investors, suppliers, human resources) that exert environmental pressures on DSs, which compete for scarce resources on the basis of economic fitness through the selection criterion of economic value (Geels, 2014).</td>
</tr>
<tr>
<td>Embeddedness</td>
<td>Refers to the contextualised nature of economic activity, which depends on cognition, culture, social and political institutions (Zukin &amp; DiMaggio, 1990). Such institutions may be either endogenous or exogenous.</td>
</tr>
<tr>
<td>Endogenous institutions</td>
<td>Institutions specific to a firm or an industry (regulations, norms and ideas that structure the actions of individuals and groups) (Geels, 2014).</td>
</tr>
<tr>
<td>Entities</td>
<td>There are two types of entities: real objects that exist independent of our knowledge of them (intransient), and objects that are related to our knowledge of the intransient entities (transitive) and that are subject to constant re-interpretation.</td>
</tr>
<tr>
<td>Environment</td>
<td>The social structures external to the DS that play a role in constraining or enabling DSs’ agency. It includes both the organisations with which DSs engage, the relationships between DSs and these organisations, and the institutions that mediate such relationships.</td>
</tr>
<tr>
<td>Environmental pressure</td>
<td>Environmental pressures arise from changes to the environmental elements that weaken a firm’s institutional fitness. If this fitness gap increases and a firm’s legitimacy decreases, the firm will begin to experience reduced performance that may ultimately risk its survival.</td>
</tr>
<tr>
<td>Events</td>
<td>The happenings or actions resulting from the enactment of causal powers of entities or structures. Ontologically independent of the ability to know them through the empirical observation of their effects.</td>
</tr>
<tr>
<td><strong>Exogenous institutions</strong></td>
<td>Institutions that affect the society at large (broadly accepted norms, values and belief systems that constitute the master principles of society) (Geels, 2014).</td>
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<tr>
<td><strong>Externally-oriented strategy</strong></td>
<td>Firms’ strategic manoeuvring to obtain the best market position; or intentional attempts to shape and mould the environment (Geels, 2014).</td>
</tr>
<tr>
<td><strong>Firm</strong></td>
<td>A human organisation constituted within a legal framework with the purpose of producing products or services and engaging in business transactions with other firms or individuals (Coase, 1937; Jensen &amp; Meckling, 1975; Ries, 2011).</td>
</tr>
<tr>
<td><strong>Horizontal embeddedness</strong></td>
<td>Refers to the “interactions between [firms] and social groups in economic and socio-political environments” (Geels, 2014; p. 267). Firms are seen as actors situated in a social system built of social networks connected through social interactions. Such social systems have structural properties that are defined by the nature of the interactions established among the agents in the network. Horizontal embeddedness conceptualises firms not as isolated agents, but rather suggests that they are in constant interaction with the other actors in their social systems. In the TEF, these interactions are conditioned by exogenous institutions and may be economic or a socio-political in nature.</td>
</tr>
<tr>
<td><strong>Hybrid industry regime</strong></td>
<td>Includes firms that belong simultaneously to two industry regimes. DSs operate in a hybrid industry regime: one related to their digital industry, and another one related to their product-sector industry.</td>
</tr>
<tr>
<td><strong>Industry</strong></td>
<td>“A population of firms in a sector, which produce similar goods and services... one can refer to an industry as a collective entity, because firms in a population share certain characteristics and face similar pressures from their environment” (Geels, 2014; p. 262).</td>
</tr>
<tr>
<td><strong>Industry regime</strong></td>
<td>“The endogenous institutions [that] influence firms-in-industries in a different way, acting as structures that mediate actions and perceptions towards the [economic and socio-political] environments” (Geels, 2014; p. 266).</td>
</tr>
<tr>
<td><strong>Internally-oriented strategy</strong></td>
<td>A strategic process of changing a firm’s nature (e.g. routines, capabilities, belief systems and mission), to improve the fit with the environment (Geels, 2014).</td>
</tr>
<tr>
<td><strong>Mechanisms</strong></td>
<td>The ways in which entities or structures exercise their causal powers to generate events.</td>
</tr>
<tr>
<td><strong>Organisational field</strong></td>
<td>The organisational field encompasses the firms in an industry and “a collection of diverse, interdependent organizations that participate in a common meaning system” (Scott, 2014; p. 106). The organisational field of DSs not only considers the population of DSs, but also the other organisations with whom they interact (e.g. governments, accelerators, angel investors and venture capitalists).</td>
</tr>
<tr>
<td><strong>Product-sector industry</strong></td>
<td>A DS product-sector industry includes the population of all firms, traditional and digital, in the same line of business (producing similar/competing products or services).</td>
</tr>
<tr>
<td>Concept</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Socio-political environment</td>
<td>‘General’ or ‘exogenous’ institutions that exert environmental pressure on firms-in-industries, through the activities of socio-political actors (e.g. social movements, wider public, media and policymakers) on the basis of social fitness, applying the selection criterion of legitimacy (Geels, 2014).</td>
</tr>
<tr>
<td>Strategic choice loop</td>
<td>Regards a firm’s decision-making as an organisational learning process with the following recursive process (Child, 1997): Information-&gt;evaluation-&gt;learning-&gt;choice-&gt;action-&gt;outcome-&gt;feedback of information</td>
</tr>
<tr>
<td>Strategy</td>
<td>Planned set of actions involving “matters of importance to an organization as a whole, particularly those bearing upon its ability to prosper within an environment where it faces competition or the need to maintain credibility. It is closely related to the idea of ‘stratagem’, which is a way of attempting to accomplish an objective in interaction with, or against, others.” (Child, 1997; p. 48).</td>
</tr>
<tr>
<td>Structure</td>
<td>Related entities or practices. Structures can either be part of a larger structure or contain substructures.</td>
</tr>
<tr>
<td>Vertical embeddedness</td>
<td>Refers to “relations between firms and industry regimes” (Geels, 2014; p. 267). Firms are viewed as actors, whose actions are shaped by the structural properties of the social system in which they are situated. Vertical embeddedness conceptualises firms as agents, not acting in a vacuum, but instead drawing on social structures (e.g. rules, resources and institutions) to direct their actions. In the TEF, firms are embedded vertically in a social structure defined as an industry regime, which encompasses the endogenous institutions that shape a firm’s actions.</td>
</tr>
</tbody>
</table>
Appendix A – Interview Guide

General Interview Opening and Closing

• Greetings and Introductions
  o Explain role as student researcher at the university, and clarify role as practitioner.

• Purpose of the Interview
  o [As we talked by the phone]/[As I previously explained by e-mail] the reason why I am so interested in interviewing you is because I am doing postgraduate research on how the Latin American Digital Start-ups relate to their environment and whether the current academic frameworks should be modified to explain these dynamics. Since you are a [founder]/[representative] of [name of DS or organisation] your perspective would be very valuable for this study.

• Ethics
  o Before we begin with the interview I want to remind you that all the information that you give me will be kept confidential and anonymous. If at any time you are not comfortable in answering any of the questions, please feel free to let me know and we can move to the next one.
  o I also want to let you know that after the interview, I will prepare a summary of our conversation and send it to you by email for your review.
  o Please let me know if you have any questions so far?
  o Very well, would you mind my recording this conversation?

• Interview
  o Transition to the Interview Script

• Ethics
  o [If not signed before] I will leave/send the participation form as requested by the university that contains the commitments from me as a researcher and from the university as an institution. If you want, I would be glad to explain it to you in detail; however, in summary, its main purpose is to make you feel confident that there will be no abuse of the information you just shared with me.

• Exit
  o Would you mind if I contact you again later on in case any further clarification is required?
  o I will prepare the summary of our conversation and send it by email for your review. It is not necessary for you to reply, but if there is something that you would like me to correct because I did not capture it correctly, or if there is something you want to add, please feel free to do so.
  o Finally, do you think there is someone else you think it is important that I interview for this study either within your organisation or another organisation in the Digital Start-ups’ ecosystem?
  o Thank you very much for sharing with me your very valuable time!
# First Interview Script

<table>
<thead>
<tr>
<th>Question</th>
<th>Objective</th>
</tr>
</thead>
</table>
| 1. For DSs: Could you please share with me what the digital product/service is that your company offers and what is its target market? For others: Could you please explain the role of [organisation] in the DSs ecosystem? | - Understand the digital product offered.  
- Understand elements of the business model.  
- Understand the organisation’s role in the organisational field. |
| 2. For DSs: How has your company evolved to this point? For others and DSs: How has the DSs’ ecosystem developed in Latin America? | - Identification of the DS development process.  
- Facilitate the contrast of empirical evidence with selection and adaptation and processes in the TEF.  
- Understand the actors in the organisational field and its development. |
| 3. For DS: What are your growth plans for the company? What are the next steps? | - Identify internally-oriented strategies.  
- Understand how DSs seize opportunities and overcome challenges. |
| 4. In your opinion, what elements of the environment influence the DSs the most? | - Identify whether the three regimes of the TEF are sufficiently comprehensive. |
| 5. Thinking about the socio-political environment, where DSs engage with the society, policy makers, and the government. How has the socio-political environment influenced the development of [your/the] DS(s)? | - Identify selection pressures from the socio-political environment over the DSs.  
- Identify actors in the organisational field in the socio-political environment.  
- Understand the impact of the institutions on the DSs’ ability to grow. |
| 6. Thinking about the economic environment, where DSs engage in economic transactions. How has the economic environment influenced the development of [your/the] DS(s)? | - Identify selection pressures from the economic environment over the DSs.  
- Identify actors in the organisational field in the economic environment.  
- Understand the impact of the institutions on the DSs’ ability to grow. |
| 7. How does the relationship with other firms in the industry influence the development of [your/the] DS(s)? | - Identify selection pressures from the industry regime over the DSs.  
- Understand the impact of the institutions on the DSs’ ability to grow. |
| 8. Can you think about examples of [your DS, or other] DSs influencing or changing the environment, and if so, how? | - Identify externally-oriented strategies.  
- Identify bi-directional mechanisms predicted by the co-evolutionary frameworks. |
| 9. Is there anything else that you would like to share with me that you consider relevant to this research? | - Identify potential new areas of interest. |
**Second Interview Script – Follow up Interview**

<table>
<thead>
<tr>
<th>Question</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have you made any changes to your business model since we talked last time? If so, why and how did you change it?</td>
<td>• Understand effect of internally-oriented strategies over time.</td>
</tr>
<tr>
<td></td>
<td>• Understand adaptation and strategic choice processes followed by DSs.</td>
</tr>
<tr>
<td>2. Have your growth plans for the company changed? Last time we talked you had a [local/national/regional] scope in mind, has this changed?</td>
<td>• Identify new internally-oriented strategies.</td>
</tr>
<tr>
<td></td>
<td>• Understand how DSs seize opportunities as they develop.</td>
</tr>
<tr>
<td></td>
<td>• Inquire about the inductive construct of multi-levelness.</td>
</tr>
<tr>
<td>3. Last time you told me these elements of the environment have been influential in the development of your company… Has the way in which they influence your company changed over time? Have you identified any new element?</td>
<td>• Identify whether the three regimes of the TEF are sufficiently comprehensive.</td>
</tr>
<tr>
<td></td>
<td>• Uncover selection mechanisms and how they impact DSs’ ability to grow at different stages.</td>
</tr>
<tr>
<td>4. Do you think your company or other DSs are now influencing the environment in a different way than the last time we talked?</td>
<td>• Identify externally-oriented strategies.</td>
</tr>
<tr>
<td></td>
<td>• Identify effects of bi-directional mechanisms over time, and if the mechanisms themselves change over time.</td>
</tr>
<tr>
<td>5. What are the common elements with other firms in the same line of business? How do you differentiate from them?</td>
<td>• Inquire about the inductive construct of a product-sector and a digital industry.</td>
</tr>
<tr>
<td>6. Last time we talked, you mentioned the following: … Could you please clarify what you meant by this?</td>
<td>• Clarify meaning of concepts from the previous interview.</td>
</tr>
<tr>
<td>7. Is there anything else that you would like to share with me that you consider relevant to this research?</td>
<td>• Identify potential new areas of interest.</td>
</tr>
</tbody>
</table>
## Third Interview Script

<table>
<thead>
<tr>
<th>Question</th>
<th>Objective</th>
</tr>
</thead>
</table>
| 1. For DSs: Could you start by giving an overview of your current business model? Is the geographical scope of your business model local, national or multi-national? For others: Could you please explain the role of [organisation] in the DSs ecosystem? Is the geographical scope of your organisation local, national or multinational? | - Understand the digital product offered.  
- Understand whether the DS uses the constructs of the BMC.  
- Understand the organisation’s role in the organisational field.  
- Inquire about the inductive construct of multi-levelness. |
| 2. For DSs: How has your company evolved its business model since you first had the idea? Did you use the Lean Start-up method or a similar one? For others and DSs: How has the DSs’ ecosystem developed in Latin America? | - Identify internally-oriented strategies.  
- Uncover the DS development process.  
- Contrast empirical evidence with theoretical mechanisms in the TEF and LSM.  
- Understand the actors in the organisational field, and its development. |
| 3. What elements of the environment do you believe influence the DSs the most? | - Identify whether the three regimes of the TEF are sufficiently comprehensive. |
| 4. Thinking about the socio-political environment, where DSs engage with the society, the local and national culture, the media, the policy makers, and the government. How has this environment influenced the development of [your/the] DS[s]? | - Identify selection pressures from the socio-political environment over the DSs.  
- Identify actors in the organisational field in the socio-political environment.  
- Understand the impact of the institutions on the DSs’ ability to grow. |
| 5. Thinking about the economic environment, where DSs engage in economic transactions (i.e. with customers, suppliers and investors). How has this environment influenced the development of [your/the] DS[s]? | - Identify selection pressures from the economic environment over the DSs.  
- Identify actors in the organisational field in the economic environment.  
- Understand the impact of the institutions on the DSs’ ability to grow. |
| 6. For DSs: In what industry do you identify your DS? What are the common elements shared with other firms in the same line of business? How do you differentiate from them? Do the relationships with other firms in this industry influence the development of your DS? What are the common elements shared with other DSs? How do you differentiate from them? Do the relationships with other firms in this industry influence the development of your DS? | - Inquire about the inductive construct of a hybrid industry.  
- Identify selection pressures from the hybrid industry regime over the DSs.  
- Understand the impact of the institutions on the DSs’ ability to grow. |
7. For DS: Do you believe you have a solid, strategic definition framework to design your strategy going forward and overcome the challenges imposed by the environment that we discussed before?
   - Identify internally and externally-oriented strategies.
   - Understand how DSs seize opportunities and overcome challenges.

8. Can you think about examples of [your DS, or another] DSs or other organisations in the ecosystem influencing or changing the environment, and if so, how?
   - Identify externally-oriented strategies.
   - Identify bi-directional mechanisms predicted by co-evolutionary frameworks.

9. Is there anything else that you would like to share with me that you consider relevant to this research?
   - Identify potential new areas of interest.

### Fourth Interview Script – Follow up Interview

<table>
<thead>
<tr>
<th>Question</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have you made any changes to your business model since we talked last time? If so, why and how did you change it?</td>
<td>Understand effect of internally-oriented strategies over time.</td>
</tr>
<tr>
<td></td>
<td>Understand adaptation and strategic choice processes followed by DSs.</td>
</tr>
<tr>
<td>2. Has the geographical scope of the [DS/organisation] changed? Last time we talked you had a [local/national/regional] scope in mind, has this changed?</td>
<td>Identify new internally or externally-oriented strategies.</td>
</tr>
<tr>
<td></td>
<td>Understand how DSs seize opportunities as they develop.</td>
</tr>
<tr>
<td></td>
<td>Inquire about the inductive construct of multi-levelness.</td>
</tr>
<tr>
<td>3. Last time you told me that these elements of the environment have been influential in the development of your company… Has the way in which they influence your company changed over time? Have you identified any new elements?</td>
<td>Identify whether the three regimes of the TEF are sufficiently comprehensive.</td>
</tr>
<tr>
<td></td>
<td>Uncover selection mechanisms and how they impact DSs’ ability to grow at different stages.</td>
</tr>
<tr>
<td>4. Do you think your company, other DSs, or other organisations in the ecosystem are now influencing the environment in a different way than the last time we talked?</td>
<td>Identify externally-oriented strategies.</td>
</tr>
<tr>
<td></td>
<td>Identify effects of bi-directional mechanisms over time, and if the mechanisms themselves change over time.</td>
</tr>
<tr>
<td>5. Last time we talked you mentioned the following: … Could you please clarify what you meant by this?</td>
<td>Clarify meaning of concepts from the previous interview.</td>
</tr>
<tr>
<td>6. Is there anything else that you would like to share with me that you consider relevant to the research?</td>
<td>Identify potential new areas of interest</td>
</tr>
</tbody>
</table>
# Appendix B – Background Information about Digital Start-Ups

<table>
<thead>
<tr>
<th>DS Code</th>
<th>Advertarg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage of Development*</td>
<td>Customer Creation</td>
</tr>
<tr>
<td>Country(ies) of Operation:</td>
<td>Argentina</td>
</tr>
</tbody>
</table>

- **Customer Segments**: B2B. Targets medium to large firms interested in improving their return on investment in digital marketing. Initial focus was on the domestic market, but expansion into Brazil has already started, and plans are afoot to explore partners with whom to enter the United States.

- **Value Proposition**: Developed a proprietary engine that enables intelligent banners to present advertisement customised to the browsing history and web context of visitors to a web page.

- **Revenue Streams**: Revenue comes from one-time transactions and recurrent services fees.

- **Sales Channels**: Direct sales efforts, customer recommendations and social networks.

- **Customer Relationships**: Customer acquisition is offline, with alternatives to move to an online customer acquisition model through partnerships. Post-sales support is mainly online, but supported with offline interactions when necessary.

<table>
<thead>
<tr>
<th>DS Code</th>
<th>Affiliarg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage of Development*</td>
<td>Company Validation</td>
</tr>
<tr>
<td>Country(ies) of Operation:</td>
<td>Argentina</td>
</tr>
</tbody>
</table>

- **Customer Segments**: B2B. Targets firms with large numbers of employees or affiliates in Argentina, with plans to expand into Brazil and eventually to other countries in Latin America.

- **Value Proposition**: Provides a platform for closed communities to guide and facilitate sales transactions between the consumers affiliated to the community and a network of providers. Providers in the network can gain access to a qualified set of consumers and tailor their offers to them. The consumers in the community benefit from improved prices or terms than they would secure individually.

- **Revenue Streams**: Revenue is based on commissions per executed transaction.

- **Sales Channels**: Direct sales efforts, customer recommendations, and social networks.

- **Customer Relationships**: Customer acquisition is offline and, and the company are exploring alternatives to move to an online customer acquisition model through partnerships. Post-sales support is mainly online, supported by offline interactions when necessary.
<table>
<thead>
<tr>
<th>DS Code</th>
<th>Agroarg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage of Development</strong>*:</td>
<td>Company Building</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation:</strong></td>
<td>Argentina</td>
</tr>
<tr>
<td>Customer Segments</td>
<td>B2B. Focused on small and medium agro firms in Argentina.</td>
</tr>
<tr>
<td>Value Proposition</td>
<td>Provides small and medium agro producers easy and quick access to a network of investors and experts in the agro-business in Argentina through an online platform.</td>
</tr>
<tr>
<td>Revenue Streams</td>
<td>Fees from one-time engagements and recurrent services.</td>
</tr>
<tr>
<td>Sales Channels</td>
<td>Direct sales, partnerships with industry associations and web portal.</td>
</tr>
<tr>
<td>Customer Relationships</td>
<td>Customer acquisition is offline. Post-sales support is mainly online, but supported with offline interactions when necessary.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DS Code</th>
<th>Argagro</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage of Development</strong>*:</td>
<td>Company Validation</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation:</strong></td>
<td>Argentina</td>
</tr>
<tr>
<td>Customer Segments</td>
<td>B2B. Targets agro producers in Argentina with plans to expand to other countries in Latin America.</td>
</tr>
<tr>
<td>Value Proposition</td>
<td>Provides business and market analytics to agro producers with the aim of optimising production and improving their negotiation position with potential buyers of their product.</td>
</tr>
<tr>
<td>Revenue Streams</td>
<td>License fees for using the software and the marketplace.</td>
</tr>
<tr>
<td>Sales Channels</td>
<td>Web portals dedicated to the agro business, and partnerships with other players in the industry who have established relationships with agro producers.</td>
</tr>
<tr>
<td>Customer Relationships</td>
<td>Offline acquisition of portals and partnerships. Online acquisition of end users through portals and partners. Online interactions for post-sales support.</td>
</tr>
<tr>
<td>DS Code</td>
<td>Autocol</td>
</tr>
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<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Stage of Development</strong>:</td>
<td>Company Validation</td>
</tr>
<tr>
<td><strong>Age</strong>:</td>
<td>2 years</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation</strong>:</td>
<td>Colombia</td>
</tr>
<tr>
<td><strong>Employees</strong>:</td>
<td>&lt;5</td>
</tr>
<tr>
<td><strong>Customer Segments</strong>:</td>
<td>B2C. Targets owners of automobiles in the local market of Bogota with plans to expand to other cities in Colombia.</td>
</tr>
<tr>
<td><strong>Value Proposition</strong>:</td>
<td>Offers a portal that brokers a relationship between consumers and providers by guiding the former and vouching for the trustworthiness of the latter.</td>
</tr>
<tr>
<td><strong>Revenue Streams</strong>:</td>
<td>Revenue comes from transaction fees.</td>
</tr>
<tr>
<td><strong>Sales Channels</strong>:</td>
<td>Digital marketing.</td>
</tr>
<tr>
<td><strong>Customer Relationships</strong>:</td>
<td>Customer acquisition is through digital marketing and social networks. Post-sales support is mainly online, supported by an intensive offline back office.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DS Code</th>
<th>Contenbra</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage of Development</strong>:</td>
<td>Company Validation</td>
</tr>
<tr>
<td><strong>Age</strong>:</td>
<td>5 years</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation</strong>:</td>
<td>Brazil</td>
</tr>
<tr>
<td><strong>Employees</strong>:</td>
<td>&lt;5</td>
</tr>
<tr>
<td><strong>Customer Segments</strong>:</td>
<td>B2C and B2B. Targets individuals and businesses interested in sharing video content in Brazil, planning to expand to other countries in Latin America.</td>
</tr>
<tr>
<td><strong>Value Proposition</strong>:</td>
<td>Provides a platform for customers to publish their digital video content, and offers a framework for customers to develop their own video digital content management platform.</td>
</tr>
<tr>
<td><strong>Revenue Streams</strong>:</td>
<td>Revenue is based on both advertisements and fees.</td>
</tr>
<tr>
<td><strong>Sales Channels</strong>:</td>
<td>Digital marketing and partnership with other web portals</td>
</tr>
<tr>
<td><strong>Customer Relationships</strong>:</td>
<td>Customer acquisition is through digital marketing and social networks. Plans underway to offer customer post-sales support offline through a call centre.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DS Code</th>
<th>Databra</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage of Development</strong>:</td>
<td>Customer Validation</td>
</tr>
<tr>
<td><strong>Age</strong>:</td>
<td>2 years</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation</strong>:</td>
<td>Brazil</td>
</tr>
<tr>
<td><strong>Employees</strong>:</td>
<td>&lt;5</td>
</tr>
<tr>
<td>Customer Segments</td>
<td>Business-to-business (B2B) targeting Small and Medium Enterprises (SMEs). Initial operation in Brazil with plans to expand to other countries in Latin America.</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Value Proposition</td>
<td>Self-contained cloud-based mobile apps that provide business intelligence analysis, leveraging Big Data at a fraction of the cost of tools provided by large multi-national software firms. The apps are customisable by product-sector industry and deployed with minimum investment. This app-based solution allows SMEs to have access to real time business intelligence information to optimise their operations (e.g. inventory, cash management, promotions, target customers) that otherwise would be unaffordable to them.</td>
</tr>
<tr>
<td>Revenue Streams</td>
<td>Revenue comes from recurrent fees charged to access the apps.</td>
</tr>
<tr>
<td>Sales Channels</td>
<td>Mobile app stores. Website. Partnership with product-sector industry associations (i.e. retailers) to promote the use of the apps. Partnership with local and national providers of financial and accounting software tools.</td>
</tr>
<tr>
<td>Customer Relationships</td>
<td>Offline campaigns through partners, digital marketing and direct sales calls to SMEs to capture customers. Possibility of offline customer service representatives for post-sales support.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DS Code</th>
<th>Domserv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage of Development*</td>
<td>Company Validation</td>
</tr>
<tr>
<td>Age**</td>
<td>1 year</td>
</tr>
<tr>
<td>Country(ies) of Operation:</td>
<td>Argentina and Mexico</td>
</tr>
<tr>
<td>Employees:</td>
<td>&lt;5</td>
</tr>
<tr>
<td>Customer Segments</td>
<td>B2C. Targets mid to high-income households interested in hiring previously screened domestic employees; and domestic service providers interested in offering their services to a pre-screened customer base. Commenced operations in Argentina and then expanded to Mexico, with plans to expand further into Colombia, Chile and other countries in Latin America.</td>
</tr>
<tr>
<td>Value Proposition</td>
<td>Offers an online platform to broker supply and demand for domestic employees. The employers have access to feedback from previous employers and a background check before hiring the service. The domestic service providers also have access to the profile of the potential employer with access to comments from previous employees.</td>
</tr>
<tr>
<td>Revenue Streams</td>
<td>Transaction fees</td>
</tr>
<tr>
<td>Sales Channels</td>
<td>Digital media and social networks</td>
</tr>
<tr>
<td>Customer Relationships</td>
<td>Customer acquisition and post-sales support online.</td>
</tr>
<tr>
<td>DS Code</td>
<td>Finanmex</td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>Stage of Development</strong>*:</td>
<td>Company Validation</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation</strong>:</td>
<td>Mexico</td>
</tr>
<tr>
<td><strong>Customer Segments</strong></td>
<td>B2C. Targets individuals who are currently using alternative methods of financing outside of the banking system. Based in Mexico with plans to expand to Chile and Colombia.</td>
</tr>
<tr>
<td><strong>Value Proposition</strong></td>
<td>Offers an online platform designed to simplify the administration of an alternative method of consumer financing commonly used in Latin America, and known as “tandas”. The platform offers transparency to the users, simplifies the administration of the “tanda”, and gives the consumer the opportunity to benefit from better pricing and terms by buying from a network of preferred providers.</td>
</tr>
<tr>
<td><strong>Revenue Streams</strong></td>
<td>Commission fees negotiated with preferred network of providers, from whom consumers may acquire financial products.</td>
</tr>
<tr>
<td><strong>Sales Channels</strong></td>
<td>HR departments of large firms, social networks and digital marketing.</td>
</tr>
<tr>
<td><strong>Customer Relationships</strong></td>
<td>Customer acquisition offline through direct sales to gain access to employees of large firms through the HR department, and online through social networks, and digital marketing. Post-sales support offered online.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DS Code</th>
<th>Insurarg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage of Development</strong>*:</td>
<td>Customer Creation</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation</strong>:</td>
<td>Argentina</td>
</tr>
<tr>
<td><strong>Customer Segments</strong></td>
<td>Business-to-consumers (B2C). Automobile owners with digital literacy across Argentina. Mainly operating in Argentina, with intentions to expand to other countries in Latin America.</td>
</tr>
<tr>
<td><strong>Value Proposition</strong></td>
<td>An online automobile insurance broker. Provides customers with a transparent, easy to understand price comparison, scope of coverage, and service differentiators from different insurance policies available in the market. Offers an easy transition between online and offline interactions for different aspects of the insurance policy buying decision process. Intends to provide the convenience and flexibility of the Internet without losing the consultative benefits of having access to an insurance agent.</td>
</tr>
<tr>
<td><strong>Revenue Streams</strong></td>
<td>Commissions generated by the sale of insurance policies.</td>
</tr>
<tr>
<td><strong>Sales Channels</strong></td>
<td>Internet portal and digital marketing.</td>
</tr>
<tr>
<td>Customer Relationships</td>
<td>Online customer acquisition that triggers a personal contact through a call centre that supports customers through the sales cycle. Post-sales support is mainly online, but supported with offline interactions when necessary.</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>DS Code</strong></td>
<td>Investarg</td>
</tr>
<tr>
<td><strong>Stage of Development</strong>:</td>
<td>Company Building</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation:</strong></td>
<td>Argentina</td>
</tr>
<tr>
<td><strong>Customer Segments</strong></td>
<td>B2C. Targets medium income individuals in Argentina interested in gaining access to the stock market as a savings and investment mechanism.</td>
</tr>
<tr>
<td><strong>Value Proposition</strong></td>
<td>Online stock-market investment broker, providing a low-cost, easily accessible alternative to established financial institutions for medium-income, first time retail investors. It offers a free of charge online financial education curriculum and an investment simulator. Transaction and brokerage fees are lower than those offered through traditional financial institutions.</td>
</tr>
<tr>
<td><strong>Revenue Streams</strong></td>
<td>Brokerage fees per transaction</td>
</tr>
<tr>
<td><strong>Sales Channels</strong></td>
<td>Web portal, digital marketing, referrals and partnerships.</td>
</tr>
<tr>
<td><strong>Customer Relationships</strong></td>
<td>Customer acquisition is online, supported by digital marketing and social networks. Post-sales support is mainly online, supported with offline interactions when required.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>DS Code</th>
<th>Langlatam</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage of Development</strong>:</td>
<td>Company Building</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation:</strong></td>
<td>Across Latin America</td>
</tr>
<tr>
<td><strong>Customer Segments</strong></td>
<td>B2C. Targets individuals across Latin America and the US Hispanic market interested in learning English as a second language.</td>
</tr>
<tr>
<td><strong>Value Proposition</strong></td>
<td>Offers an online platform through which students can follow a self-paced structured curriculum with online/on-demand interaction with native English speaking instructors, who can answer questions and guide the student through the courses. The courses are offered at a fraction of the cost of on premises alternatives and with more flexibility.</td>
</tr>
<tr>
<td><strong>Revenue Streams</strong></td>
<td>Tuition fees</td>
</tr>
<tr>
<td><strong>Sales Channels</strong></td>
<td>Offline marketing and Web Portal</td>
</tr>
</tbody>
</table>
Customer Relationships | Customer acquisition is completed offline, with sales transactions completed through the web portal. Post-sales support is mainly online, but supported with offline interactions when required.

---

<table>
<thead>
<tr>
<th><strong>DS Code</strong></th>
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<tbody>
<tr>
<td><strong>Stage of Development</strong>*:</td>
<td>Company Creation</td>
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<tr>
<td><strong>Age</strong>:</td>
<td>3 years</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation:</strong></td>
<td>Across Latin America</td>
</tr>
<tr>
<td><strong>Employees</strong>:</td>
<td>&lt;5</td>
</tr>
</tbody>
</table>

Customer Segments | B2B. Targets websites across different countries in Latin America and digital marketing providers in both the United States and Latin America. |

Value Proposition | Broker of digital marketing based on a recruiting engine that finds small websites with high traffic and matches them with digital marketing providers. The engine is able to channel specialised content to targeted audiences. |

Revenue Streams | Fees charged by transaction when potential customers click on digital adverts. |

Sales Channels | Direct sales and partnerships. |

Customer Relationships | Online customer acquisition and online post-sales support. |

---

<table>
<thead>
<tr>
<th><strong>DS Code</strong></th>
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</thead>
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<td>Company Design</td>
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<td><strong>Age</strong>:</td>
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</tr>
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<td>Argentina</td>
</tr>
<tr>
<td><strong>Employees</strong>:</td>
<td>&lt;5</td>
</tr>
</tbody>
</table>

Customer Segments | B2B and B2B. Targets individuals that engage in e-commerce transactions and firms with e-commerce portals. Started in Argentina, with plans to expand to other countries in Latin America. |

Value Proposition | Offers an online mediation platform, so that individuals who prefer to transact online and businesses that sell online to solve potential customer service or product quality disputes without having to go offline. The service aims to be faster, more convenient and cheaper than traditional offline mediation services. |

Revenue Streams | Fees per transaction. |

Sales Channels | Digital marketing and social networks for B2C, direct sales for B2B. |

Customer Relationships | Customer acquisition is online for B2C and offline for B2B, and potential customer acquisition through partnerships. Post-sales support is intended to be online. |

---
<table>
<thead>
<tr>
<th><strong>DS Code</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Stage of Development</strong></td>
<td>Company Discovery</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation</strong>:</td>
<td>Colombia</td>
</tr>
<tr>
<td><strong>Customer Segments</strong></td>
<td>B2B and B2C. Targets nightclubs and individuals attending such venues.</td>
</tr>
<tr>
<td><strong>Value Proposition</strong></td>
<td>Provides an application that guests can use to vote on the music that will be played next in a nightclub, providing an interactive experience for guests and real-time customer preference information to the managers of the nightclubs.</td>
</tr>
<tr>
<td><strong>Revenue Streams</strong></td>
<td>Digital marketing</td>
</tr>
<tr>
<td><strong>Sales Channels</strong></td>
<td>Social networks for consumers and direct sales for nightclubs</td>
</tr>
<tr>
<td><strong>Customer Relationships</strong></td>
<td>Online customer acquisition for consumers and offline for nightclubs. No post-sales support provided.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>DS Code</strong></th>
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<tbody>
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<td><strong>Stage of Development</strong></td>
<td>Company Validation</td>
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<tr>
<td><strong>Country(ies) of Operation</strong>:</td>
<td>Colombia</td>
</tr>
<tr>
<td><strong>Customer Segments</strong></td>
<td>B2C. Targets individual consumers in Colombia who wish to acquire prescription eyeglasses.</td>
</tr>
<tr>
<td><strong>Value Proposition</strong></td>
<td>Built an e-commerce portal that offers the flexibility to buy prescription eyeglasses from anywhere in the country at any time and delivered to the customer’s home without the need to visit an optometrist in person. It offers more competitive prices and a wider variety of options than traditional bricks-and-mortar retailers.</td>
</tr>
<tr>
<td><strong>Revenue Streams</strong></td>
<td>Sales through the e-commerce portal.</td>
</tr>
<tr>
<td><strong>Sales Channels</strong></td>
<td>Web portal. Digital marketing and offline marketing</td>
</tr>
<tr>
<td><strong>Customer Relationships</strong></td>
<td>Customer acquisition is online, supported by digital marketing and social networks. Post-sales support is mainly online, but supported with offline interactions when required.</td>
</tr>
<tr>
<td>DS Code</td>
<td>Shareapp</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td><strong>Stage of Development</strong>*:</td>
<td>Company Validation</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation</strong>:</td>
<td>Global</td>
</tr>
<tr>
<td><strong>Customer Segments</strong>:</td>
<td>B2C. Targets consumers familiar with social networking tools with a global reach.</td>
</tr>
<tr>
<td><strong>Value Proposition</strong>:</td>
<td>An app that provides a platform to share recommendations of hobbies, places, music, and entertainment that can be filtered by contacts that are trusted to know about certain topics.</td>
</tr>
<tr>
<td><strong>Revenue Streams</strong>:</td>
<td>Digital marketing.</td>
</tr>
<tr>
<td><strong>Sales Channels</strong>:</td>
<td>Digital marketing and social networks.</td>
</tr>
<tr>
<td><strong>Customer Relationships</strong>:</td>
<td>Online customer acquisition and post-sales support.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
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<th>Trainbra</th>
</tr>
</thead>
<tbody>
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<td>Customer Validation</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation</strong>:</td>
<td>Brazil</td>
</tr>
<tr>
<td><strong>Customer Segments</strong>:</td>
<td>B2C. Targets professionals interested in developing specialised skills or professional development across Brazil.</td>
</tr>
<tr>
<td><strong>Value Proposition</strong>:</td>
<td>Provides an e-learning platform with an interactive format, with content provided in the local language and customised for the local market. The platform enables an agile creation and sharing of high quality content, which offers customers access to information before it is available through other channels or formal education institutions. Content includes recorded seminars and exclusive interviews with experts on topics of interest to users.</td>
</tr>
<tr>
<td><strong>Revenue Streams</strong>:</td>
<td>Revenue comes from fees charged to access the content, on either a one-off, or subscription basis</td>
</tr>
<tr>
<td><strong>Sales Channels</strong>:</td>
<td>Digital marketing and potential use of offline media partners.</td>
</tr>
<tr>
<td><strong>Customer Relationships</strong>:</td>
<td>Customers are captured through digital marketing and social networks. Post-sales transactions are moving from offline to online.</td>
</tr>
<tr>
<td>DS Code</td>
<td>Trainlatam</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td><strong>Stage of Development</strong>:</td>
<td>Customer Validation</td>
</tr>
<tr>
<td><strong>Country(ies) of Operation</strong>:</td>
<td>Across Latin America</td>
</tr>
</tbody>
</table>

**Customer Segments**: B2C and B2B. Targets individuals across Latin America interested in gaining professional certification on the design or operation of information systems and telecommunications technologies from multinational companies. It also offers the platform to firms interested in certifying their own employees and business partners.

**Value Proposition**: Offers an online platform through which students can acquire highly sought technical skills. The platform allows students to follow a self-paced structured curriculum with online/on-demand interaction with instructors that can answer questions and guide the student through the courses. The courses are offered at a fraction of the cost of on premises alternatives, and have more flexibility.

**Revenue Streams**: Registration and tuition fees

**Sales Channels**: Digital marketing and offline marketing

**Customer Relationships**: Customer acquisition is online, supported by an offline process when requested by the customer. Post-sales support is mainly online, but supported offline when requested by the customer.

* Stage of stages of development in the customer development process (Blank & Dorf, 2012) introduced in Section 2.3.2.

** Age refers to the time between the DS’s legal incorporation as a firm and the day of the first interview.
### Appendix C – Templates

<table>
<thead>
<tr>
<th>Node</th>
<th>Theme/Sub-theme(s)/Code</th>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Comments</th>
</tr>
</thead>
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<td>Institutional Entrepreneurship</td>
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<td>Re-coded with lock-in mechanisms, economic, or socio-political themes</td>
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<tr>
<td>5.11</td>
<td>Media</td>
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<td>5.12</td>
<td>Not-for-profit organisations</td>
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<td>Suppliers</td>
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<td>Universities</td>
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<td>Venture Capital</td>
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*Within level code count refers to the number of instances coded at the individual theme, sub-theme, or code level without adding the sub-levels.

**Accumulative code count refers to the total number of instances coded at the theme, sub-theme, or code level inclusive of all the respective sub-levels.
Bibliography


ECLAC. (2016) Science, technology and innovation in the digital economy: The state of the art in Latin America and the Caribbean. Economic Commission for Latin America and the Caribbean: Santiago, Chile


Honig, B. & Hopp, C. (2016) "New venture planning and lean start-up activities: A longitudinal empirical study of entrepreneurial success, founder preferences and venture context" Models of Start-up Thinking and Action: Theoretical, Empirical...
Horn, R. L. V. (1973) "Empirical studies of management information systems". *SIGMIS Database*, 5(2-3-4), 172-182.


IMF. (2016) *World Economic Outlook*. In J. B.F. Library (Ed.): International Monetary Fund, Washington DC


Kelestyn, B., Henfridsson, O. & Nandhakumar, J. (2017, 4-7 Jan) *Scaling the user base of digital ventures through generative pattern replication: The case of ridesharing*. 332
Paper presented at the 50th Hawaii International Conference on System Sciences.


Matuschewski, A. (2006) "Regional clusters of the information economy in Germany". Regional Studies, 40(03), 409-422.
Maurya, A. (2012) Running lean: iterate from plan A to a plan that works. O'Reilly Media, Inc.: California


Yau, A. & Murphy, C. (2013) "Is a rigorous agile methodology the best development strategy for small scale tech startups?" *Department of Computer & Information Science Technical Reports (CIS)*: University of Pennsylvania.


