



Which Types of Institutions Influence the Development of Entrepreneurial Ecosystems? A Legal Systems Perspective

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Abstract. This paper presents a critical literature review of academic articles that analyze the role of formal and informal institutions in entrepreneurial ecosystems. It discusses which types of formal and informal institutions matter for the development of ecosystems, highlighting the importance of considering the specific type of legal system of the country in which they were developed, i.e. its legal origin (civil, common, and mixed legal systems). The overall assumption of the paper is that entrepreneurial ecosystems are embedded in a certain type of institutional environment, while at the same time each institutional environment is in turn embedded in a specific type of legal system. The literature review revealed that existing studies exhibit a high degree of heterogeneity in the types of formal institutions that are important for ecosystems, based on the type of legal system. In particular, entrepreneurial ecosystem researchers seem to focus more on formal macro level institutions in civil legal systems, such as top-down government policies, especially when compared to developed countries with common legal systems. This suggests a more limited role for state intervention in the governance of entrepreneurial ecosystems in developed countries with common legal systems, compared to countries with civil legal systems. However, there is far more consensus in the literature on the types of informal institutions that are important for entrepreneurial ecosystems, regardless of the legal system.

Keywords: entrepreneurial ecosystem; institutions; context.

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1. Introduction

The aim of this paper is to discuss which types of formal and informal institutions are considered relevant in existing studies that focus on entrepreneurial ecosystems. It does so by performing a critical literature review of existing articles which analyze formal and/or informal institutions in the context of entrepreneurial ecosystems, and discusses the patterns and detected evidence in light of three legal systems: civil, common and mixed legal systems. The ultimate goal of the

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analysis is to enhance understanding of which types of formal and informal institutions have been considered relevant for entrepreneurial ecosystems in countries with civil, common or mixed legal systems.

Researchers have focused on entrepreneurial ecosystems since the early 2000s, and there is already an extensive amount of literature covering different aspects of the ecosystem, both at the system and venture level. Within this literature, both formal and informal institutions (North, 1990) have been analyzed as important elements for understanding the functioning of ecosystems. Formal and informal institutions usually taken into account by researchers are those described by North (1990): whereas formal institutions are based on laws, regulations, and contracts, informal ones operate on the basis of culture, social norms, and values. As such, they have also been described as the rules of the game (Baumol, 1990; Braunerhjelm and Henrekson, 2016) that constrain or impact on behavior (Scott, 2013). For example, Dilli et al. (2018) demonstrate empirically how varieties of entrepreneurship are facilitated by different institutional constellations related to governance, labor markets, education and training, and inter-firm relationships. Furthermore, in the existing literature it has been stated that the entrepreneurial ecosystem is embedded in the institutional environment (Brooks et al., 2019), that institutions represent the foundation of the ecosystem (Stam, 2015), and that institutions impact on the ventures' economic performance and impact upon society (Baumol, 1990; Boettke and Coyne, 2009). The entrepreneurial ecosystem literature also includes institutions in the definition of the ecosystems itself: Roundy et al. (2018) define an entrepreneurial ecosystem as *“the sets of actors, institutions, social networks, and cultural values that produce and sustain entrepreneurial activity”*. Therefore, there is an ongoing interest in the interplay between institutions and entrepreneurial ecosystems.

Recent literature reviews have discussed the existing gaps in the theoretical foundations of institutions as well as the lack of consistency in the levels of analysis of institutions when applied to entrepreneurial ecosystems (Su et al., 2017; Alvedalen and Boschma, 2017). Su et al. (2017) found omissions and biases in the application of institutional theory to entrepreneurship-related contexts and highlighted the fact that the current literature is not clear about why some institutions are more or less important compared to others in different contexts (Zhai et al., 2019). Moreover, the questions where there is still little consensus among researchers revolve around which formal and informal institutions are important, and whether they matter in the same way irrespective of the national context within which the analyses were performed (Estrin et al., 2012). As acknowledged by Zhai et al. (2019), the lack of a theoretical framework that guides the consistent selection of relevant institutions — at different levels and in different contexts — may make a more systematic analysis of ecosystems and their institutional elements extremely challenging.

In this paper I introduce some new theoretical concepts in the discussion about how formal and informal institutions matter for entrepreneurial ecosystems, which may provide some clarity and contribute useful insights. These theoretical concepts are legal systems, originating from the literature on comparative law and legal origins. Legal systems have already been introduced in both management and entrepreneurship research and have been found to be relevant in specific situations, for example in the discussion about property rights and the rule of law (Troilo, 2011; Desai et al., 2003). A legal system's *reliability* levels have been measured by means of the four institutional indicators found in the World Bank's Doing Business database and applied to entrepreneurship research by Dilli et al. (2018). They found that unreliable legal systems hamper inter-firm cooperation, while reliable legal systems promote stable and secure rules of the game, where inter-firm cooperation should be the main outcome.

The logic behind using comparative law theory and hence comparing different legal systems builds on the idea that each entrepreneurial ecosystem is embedded in a specific institutional environment (Batjargal, 2003; Boettke and Coyne, 2009; Hwang and Powell, 2005; Sobel, 2008). At the same time, each institutional environment, represented by formal and informal institutions, is in turn embedded in a certain type of legal system. Hence the institutional heterogeneity in different entrepreneurial ecosystems found by previous studies may be due to the fact that countries adopt different types of legal system. In this respect, legal systems have different implications for the way formal and informal institutions function in certain contexts and also impact on the way in which economic actors and organizations behave. For example, in civil legal systems formal institutions are typically found in the form of written laws (legal text) that are implemented through a top-down governmental procedure. On the other hand, in common legal systems the sources of formal rules are both written and unwritten: court judgements and sometimes laws are written, while the so-called "implied rules" — rules that are customary for a given situation — are unwritten. Legal systems also impact on the way informal rules such as values, customs, and culture are perceived and taken into account by actors and organizations.

Against this background, the critical literature review presented here adopts an institutional perspective to improve our understanding of what is considered to matter in different legal systems for the growth and development of entrepreneurial ecosystems. The paper reviews 30 articles that analyzed the role of formal and informal institutions in the entrepreneurial ecosystems of different countries across the world, from Europe to North America, Asia, the Middle East, and Africa. The review facilitates an understanding of which institutions are considered important for entrepreneurial ecosystems in the existing literature, while distinguishing between countries with different legal systems.

The study makes a number of important contributions. First, it introduces a new theoretical perspective based on legal systems origin theory that analyzes the role of institutions in entrepreneurial ecosystems. While there are already

literature reviews that looked at the role of institutions for entrepreneurial ecosystems (see for example Su et al., 2017), the legal origins perspective is not present in any of them. When applied to institutions, the legal origins perspective can have important implications for the development of the theory on entrepreneurial ecosystems. Second, this study distinguishes between institutions on a multi-layered basis, i.e. whether they are formal or informal, whether they operate at macro (country), meso (organizational field) or micro (firm, individual) level and whether they are embedded in a common, civil or mixed legal system. This multi-layered classification allows for precise identification of which institutions are important in which entrepreneurial context, providing some new perspectives on the conflicting results found by previous studies (see Estrin et al., 2012; Zhai et al., 2019).

The article is structured as follows. Section 2 provides a summary of the main theoretical perspectives adopted in this study, which include entrepreneurial ecosystems, institutional theories, and legal systems. In Section 3 I introduce the methodology adopted to perform the critical literature review. Section 4 presents the main results of the literature review and a discussion of the findings. Finally, recommendations for future research are outlined in the conclusion.

2. Theoretical Framework

2.1. Entrepreneurial Ecosystems

Possibly due to its elasticity and adaptability, the term “ecosystem” has attracted researchers from a variety of business and management domains. A recent literature review showed indeed that the “ecosystem” label has been used to describe a wide range of often overlapping phenomena, in some cases creating conceptual and terminological confusion within and among disciplines (Thomas and Autio, 2020).

In the entrepreneurial ecosystem literature, there seems to be consensus that the central feature of an entrepreneurial ecosystem is an entrepreneur who is surrounded by the actors and organizations of the ecosystem (Isenberg, 2016; Stam, 2015, 2017). The boundaries within which these actors and organizations operate are not always easy to determine. They have been discussed in the literature which highlights the collision between the ecosystem’s boundaries and its governance structure (Cantner et al., 2020; Colombo et al., 2019) or with the region in which it is embedded (Thomas and Autio, 2020). Colombo et al. (2019) also found that several ecosystems can co-exist within one ecosystem. Moreover, the ecosystem is a spatial phenomenon, which implies its relationship with a particular geographical location or territory (Stam and Spigel, 2018).

In a given geographical location, the ecosystem's environment serves to facilitate the growth of entrepreneurial new ventures (Isenberg, 2016; Roundy et al., 2018; Roundy, 2019; Cantner et al., 2020). The environment is of a complex nature, characterized by causality and the interaction of the actors involved in ecosystem processes (Isenberg, 2016; Isenberg and Onymeah, 2016; Acs et al., 2017; Stam, 2015, 2017). While some general configurations of the ecosystem have been illustrated — for example by identifying different pillars of the ecosystem, such as its main cultural, social, and material attributes (Isenberg, 2016; Spigel, 2017; Stam and Spigel, 2018) — each configuration of any ecosystem is unique to the particular context of the ecosystem itself, due to its complexity. Isenberg (2010) developed six domains of entrepreneurship ecosystems: policy, finance, culture, support professionals, human capital, and market. These domains represent the properties an ecosystem should possess in order to be successful, but their configuration and functioning are specific to the context in which they operate (Isenberg, 2010). This implies that not only each ecosystem at the system level is sensitive to local environmental conditions, but also to each domain of the ecosystem, at all levels (Isenberg, 2010).

The context dependence of an ecosystem makes it unsuitable for one-solution-fits-all practices, as it implies that the interconnected, dynamic, and complex nature of the behavior of its actors or domains is non-repeatable in a different context. As Stam (2015) points out: “*The entrepreneurial ecosystem approach thus begins with the entrepreneurial individual instead of the company, but also emphasizes the role of the entrepreneurship context.*” This reasoning builds on the legacy of Moore (1993), who suggested that businesses are embedded in a context and system whose players are interconnected, as opposed to operating independently and in a vacuum. In order to understand the ecosystem's social context and dependence on local conditions, it is indeed important to understand the functioning of the institutions in the locality of interest.

2.2. The Role of Institutions in Entrepreneurial Ecosystems

Institutions are the rules of the game by which the entrepreneurial ecosystem operates, functions, and provides support to the entrepreneur. They are the element that makes the context dependency relevant. The same ideas and type of organizations will lead to different performance and outcomes when operating in a context with a different institutional setting: institutions constrain and regularize behavior (Scott, 2013). The importance of institutions for entrepreneurial activity has been recognized by the scholars who investigated their impact on a number of factors, such as entrepreneurial activity, creation of entrepreneurial networks, and perception of opportunities across societies

(Gertler, 2010; Johannisson et al., 2002; Boettke et al., 2007; Kara and Peterson, 2019).

To this end, institutional theory also explains how different actors behave in conformity with or disagree with the established institutional environment (Meyer and Rowan, 1991). This paper builds on two institutional theories presented by North (1990) and Scott (2013). According to North (1990), the institutional environment can be established by formal and informal institutions. Informal institutions are social and cultural practices (North, 1990). In the entrepreneurial ecosystem context, these informal institutions could be levels of trust between the actors in the ecosystem or willingness to engage in risk taking behavior in a certain society. Social and cultural practices as informal institutions or “constraints” provide a structure for our relationship with others that helps us maintain some societal equilibrium: *“These are the rules that have never been consciously designed and that is in everyone’s interest to keep”* (North, 1990). Informal rules are part of the culture, they are the modes of behavior established over time — the so-called customs, social norms, and values (North, 1990). These various types of informal rules or constraints have different origins and their evolution and duration differ as well. Formal institutions on the other hand, are brought by governing and regulatory agencies and agents in established procedures (North, 1990). Formal rules are laws, economic regulations, and contracts: these are texts that are formulated in a pre-established, officially recognized way and are usually legally binding.

Building on North (1990), Scott further defines institutions as embedded in three pillars: *“regulative, normative and cultural-cognitive (elements) that together with associated activities and resources provide stability and meaning to social life”* (Scott, 2013). In the context of entrepreneurship, the regulative pillar (formal institutions) allows us to understand to what degree the rules and regulations that govern the work in an environment facilitate entrepreneurship. The normative pillar (which includes both informal and formal institutions), includes values and norms, where some values and norms are valid for all members of the given community and others for only the members of the subgroup. The cultural-cognitive pillar (involving both informal and formal institutions) involves individual propensities or subjective interpretations in addition to objective conditions (Scott, 2013).

Against this background, different institutional pillars (Scott, 2013) of formal and informal institutions (North, 1990) overlap and coexist in a relationship that creates institutional complexity (Greenwood et al., 2011). For example, informal rules are generally believed to be more resistant to change compared to formal rules (Scott, 2013), while when they are not in harmony it is usually because the intention is to change or impact the informal through the formal. As North (1990) writes: *“That the informal constraints are important in themselves (and not simply as appendages to formal rules) can be observed from the evidence that the same formal rules and/or constitutions imposed on different societies produce*

different outcomes (...) As a result the tension between altered formal rules and the persisting informal constraints produces outcomes that have important implications for the way economies change.”

The varieties of capitalism stream of literature further views the relationships between institutions as the main drivers of institutional heterogeneity, whereas institutions are seen as complementary when one increases the efficiency of the other (Hall and Soskice, 2001; Elert et al., 2019). Voigt (2018) discusses the relationship between institutions in light of their importance for economic transition processes, by means of four types of potential interplay: neutral, complementary, substitutive, and conflicting. In this regard, legal systems may represent an important mechanism for understanding the institutions and their interplay. Formal institutions, such as rules and regulations will depend on the type of legal system, while in certain legal systems informal rules such as customs may assume the role of formal rules by becoming legally binding or by being formally recognized in another manner.

2.3. Entrepreneurial Ecosystems Within Different Comparative Legal Systems

Although legal systems theory has already been used in entrepreneurship studies (Estrin et al., 2012; Su et al., 2017), it was not applied in a systematic manner, in contrast to other business-related fields, where it received more attention. An example is the work of La Porta et al. (1997), which has become extremely influential from the point of view of global and international economic policy making. These authors combined economic theory and comparative legal system theories to explain the level of investor protection on the basis of the legal origins of the countries under investigation (La Porta et al., 1997). The results of this research show that English common law systems provide better protection and are more efficient from an economic point of view, in particular when compared to the French civil law systems. The discussion around this paper triggered further discussion about the potential superiority and support for economic achievement of one type of legal system over the other (Milhaupt and Pistor, 2008).

Legal systems may be defined as “*a set of rules or norms, written or unwritten, about right and wrong behaviors, duties and rights*” (Friedman, 1975). The classification of legal systems is relevant not only because it highlights a certain type of organization of the system itself, but it also has consequences for the interpretation of the beliefs and thus behaviors of the respective systems’ participants (La Porta et al., 2008). Legal systems are classified based on their similarities and typically legal origin. However, the legal origins theory has largely overlooked hybrid or mixed legal systems (Kim, 2010). In this paper I adopt the most common classification of the world’s legal systems based on their legal origins, but also take account of the group of countries whose legal system is of a hybrid nature. Based on this point of departure, legal systems can be

divided into civil law (Roman legal origin tradition), common law (Anglo-Saxon legal origin tradition), and mixed system (common and civil legal origin tradition; common and customary legal origin tradition; civil and customary legal origin tradition) (La Porta et al., 2008; David, 1973; Tetley, 2000).

Civil law legal systems have Roman and French legal traditions. Within this legal system, the law and formal rules are codified and represented by governmental top-down laws that are created in pre-established legislative procedures. Here, the judges do not create the law by their decisions, but rather interpret already existing law and apply it to a case. Common legal systems originate from the Anglo-Saxon tradition, and the formal rule is created by judges with their court decisions. Formal rules such as judges' decisions may provide a channel for the formalization of what was previously a custom. Indeed, in a common legal system the judges hear the facts of the case and in their final decision they might take into account customary behavior, or what is the custom for that particular disputed situation. The decision of the court would then become binding not only for the parties to the dispute but also for anyone else in the same situation in the future. Compared to civil legal systems, the rules within common legal systems are broader, oral arguments play a more significant role, and the parties have the possibility of agreeing a contract that is not extensively regulated. While all legal systems are influenced by other legal systems, making them in principle mixed, traditionally the mixed or hybrid legal systems are the ones in which one of the two legal systems — common or civil — has been applied cumulatively or interactively with the traditional or customary law, or in which there is a mix of civil and common legal system traditions. In these legal systems the custom or religion may coexist with the formal law, sometimes even on an equal footing, or they may become formal rules themselves.

3. Methodology

The three theoretical concepts introduced in this paper, namely entrepreneurial ecosystem, institutions, and legal systems, are used to review the existing literature on entrepreneurial ecosystems from an institutional perspective. Entrepreneurial ecosystem and institutional theories have been used to identify relevant articles to be analyzed and, within these, the formal and informal institutions (North, 1990) that have been discussed as by the authors of the studies. In addition, the institutions identified in a given ecosystem have been classified based on their civil, common, or mixed legal system of belonging.

The paper provides a critical literature review of articles that analyze the institutions of an entrepreneurial ecosystem and adheres to the methodology described by Cavallo et al. (2019) and Su et al. (2017). In the first step a literature search is performed and the articles identified are analyzed in accordance with a pre-established scheme. In the second step the evidence about formal and

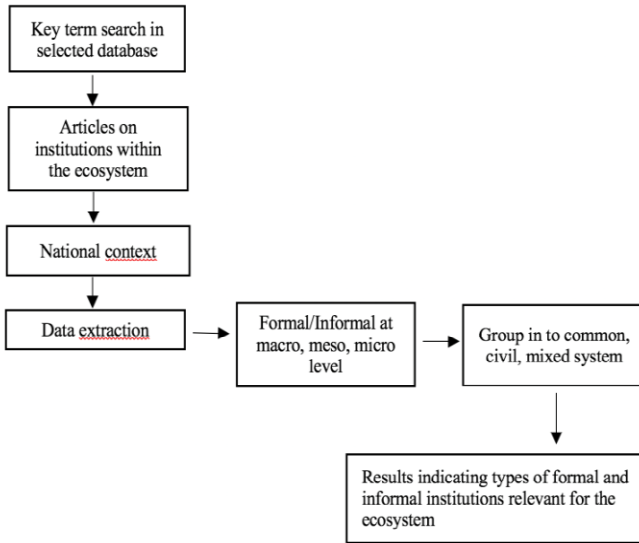
informal institutions at the micro, meso, and macro level of the entrepreneurial ecosystem is matched to the common, civil or mixed legal systems categories, as per comparative legal systems theory.

Previous research has not always been very rigorous in distinguishing between national and regional systems of innovation, clusters, innovative milieus, and entrepreneurial ecosystems (Thomas and Autio, 2020). However, a distinctive characteristic of ecosystems in general relates to their non-generic complementarities (Jacobides et al., 2018). Moreover, a particular feature of entrepreneurial ecosystems is the emphasis they place on enabling business model innovation through new venture creation (Autio et al., 2018). Previous research indicates the distinctiveness of the entrepreneurial ecosystem framework, due to its ability to be comprehensive rather than exclusive of all or any industry sector or technology domain, while at the same time promoting horizontal knowledge spillovers (Autio et al., 2018). For these reasons, this paper only focuses on existing studies that explicitly adopt the entrepreneurial ecosystem framework with its specific features and does not consider studies that instead analyzed related but different concepts, such as “industrial districts” (Marshall, 1920), “regional clusters” (Maskell, 2001; Piore and Sabel, 1984), or “national and regional system of innovation” (Asheim et al., 2011; Doloreux and Parto, 2005). Therefore, these latter terms have not been included in the search option.

To identify relevant articles the Scopus database was browsed (Cavallo et al., 2019). The search began by matching the term “entrepreneurial ecosystem” with the title, abstract or keywords of articles published from 2011-2020 as this is the period during which the entrepreneurial ecosystems research experienced extensive growth. The result was a total of 525 hits. Subsequently, the documents obtained were limited to English-language articles published in academic journals, resulting in 346 articles. The results were further refined by searching within the obtained list of articles for those that refer to “institutions” in title, abstract or main text. This allowed to focus the search on the topic of interest: institutional analyses of entrepreneurial ecosystems. The total number of articles that met the criteria was 188. Following this, an additional criterion as in Cavallo et al. (2019) was applied: only those articles that performed the analysis in relation to a particular regional or national context were selected for the review, as this would enable the identification of institutions that matter in a specific national context. National context is an important criterion, as it allowed to place the identified institutions within one single legal system. This criterion indeed allowed for the exclusion of irrelevant articles, in line with the critical, rather than systematic approach of this analysis (Cavallo et al., 2019; De Massis et al., 2013; Zott et al., 2011). In such a manner I obtained a total of 37 articles. In addition, I adopted a snowballing technique (Greenhalgh and Peacock, 2005) that allowed for the identification of additional articles: this led to a total number of 44 articles. Finally, during the analysis stage an additional 14 articles were excluded, as they

did not refer to any formal or informal types of institution. The final number of articles analyzed in this critical literature review is hence 30. Of the 30 articles, five performed a comparative analysis of entrepreneurial ecosystems located in more than one country. In this case, each ecosystem was coded as a separate article. The running diagram below illustrates the steps undertaken. The methodology is described in Figure 1, in accordance with Zhai et al. (2019).

Figure 1: Methodology of the literature review



3.1. Excluded Studies

A sample of excluded articles is presented in the Appendix in Table A1. It is accompanied by the reasons for exclusion, which are coded as follows: ‘Irrelevant to the main subject’, or ‘Did not elaborate on different types of institution in the context of a specific country/region’. The articles found to be irrelevant to the main subject are those whose scope falls outside the entrepreneurial ecosystem phenomena. One example is Honjo and Nakamura (2020), who performed an international comparison related to the links between entrepreneurship and investment. While their study tackles specific national contexts and allows the identification of a specific legal system, it does not adopt the entrepreneurial ecosystem approach.

On the other hand, the articles found not to contribute to a discourse that elaborates on the types of formal and informal institutions and links them to a regional or national context, were also excluded. For example, in their study Miles and Morrison (2020) discuss rural entrepreneurial ecosystem contextual issues, without placing the discussion in a particular national context, making

linkage with legal system for the purpose of coding unfeasible. Hence, the reason for exclusion is that if we adopt the legal origins approach, the possibility to identify the type of institution in relation to a national context is the *conditio sine qua non* of legal systems identification.

4. Data Analysis

The categories for the analysis are based on a) whether the article focuses on formal or informal institutions, b) whether the article discusses institutions at the macro, meso or micro level, and c) whether the article discusses institutions in civil, common or mixed legal systems. This categorization makes it possible to distinguish articles on formal and informal institutions with respect to entrepreneurial ecosystems, whether each institution is discussed at macro, meso or micro level, and whether the institutions are analyzed in the context of a country with a civil, common or mixed legal system.

North's (1990) classification of formal and informal institutions is used to distinguish between formal institutions, such as laws or government policies, and informal institutions, such as culture, social norms, and values. Scott's (2013) three pillars of the institutional framework (regulative, normative, and cultural-cognitive) are used for observing and understanding the possible occurrence of a transition from informality to formality.

Based on the scope of their influence on the entrepreneurial ecosystem, the formal and informal institutions are classified into macro, meso and micro, in accordance with Su et al. (2017). At the macro level the institutions are those that are applied to the whole of a country and hence influence all entrepreneurs and other actors who are part of that country-specific entrepreneurial ecosystem. Institutions at meso level are those that are relevant for the organizational field (Scott, 2013), in this case described as applicable to the entrepreneurial ecosystem discourse. Both formal and informal institutions at micro level are those with a direct influence on individual actors. Finally, the classification of legal systems based on their origin was adopted to distinguish between countries with different types of legal system: civil, common or mixed. The name of the country is included to enable the matching of the data with civil, common or mixed legal systems.

Table A2 in the Appendix presents the coding scheme and sample of the variables included in the data analyses. The selected studies analyze entrepreneurial ecosystems in countries in Europe, North America, Asia, and Africa. The majority of the studies analyze the role of institutions in European entrepreneurial ecosystems (15 cases), including both Western and Eastern European countries. Among the European countries only two studies on the UK provide examples of common legal systems, while the vast majority of studies are on countries with civil legal systems. The second most common geographical

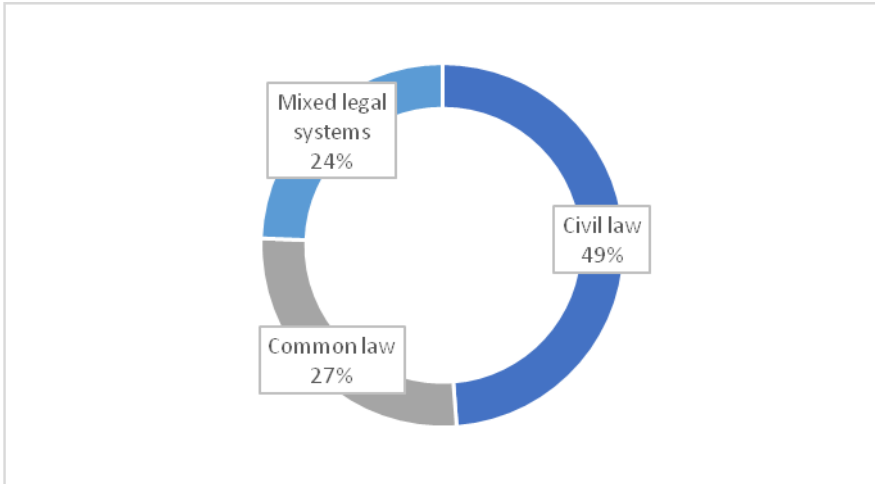
area represented is East Asia (China, India, Japan, Korea, etc.) with ten studies, of which three are from China. With the exception of two studies (India and Malaysia), all of the other East Asian countries have a civil legal system. There are nine studies that refer to entrepreneurial ecosystems in Africa. African countries are all represented by a mixed legal system with the exception of Ghana, which is a common law country. The US and Canada, both common legal system countries, are represented by two studies each. And only two studies focus on Central and South America with one case of a civil and one case of a common legal system. Two cases are from entrepreneurial ecosystems in the Middle East represented by the United Arab Emirates and Israel, both of which are mixed legal system countries. Overall, the majority of studies about ecosystems in civil law countries concern Europe and East Asia, while those in common law countries mainly concern the US, Canada, the UK, and India, while mixed systems are prevalent in Africa and the Middle East.

4.1. Results

As shown in Figure 2, the majority of the analyses on institutions and entrepreneurial ecosystems takes place in academic papers that study entrepreneurial ecosystems in countries with civil legal systems (in particular in Europe and East Asia), i.e. in a legal system in which top-down governmental policies are the main source of formal rules. Indeed, of the 30 articles included in this review, almost half (49%) investigate countries with a civil legal system. Entrepreneurial ecosystems in countries with a civil legal system have a balance of formal and informal institutions, where most are discussed at macro level. Entrepreneurial ecosystems in common law countries are dominated by informal institutions consisting of cultural-cognitive pillars. Most of these are also discussed at meso or individual level. Entrepreneurial ecosystems in countries with a mixed legal system have a balance of formal and informal institutions as well as discussion on macro or meso level.

In the sections below I present the results related to formal and informal institutions at macro, meso, and micro level found in entrepreneurial ecosystems of countries that are further divided into common, civil or mixed legal systems.

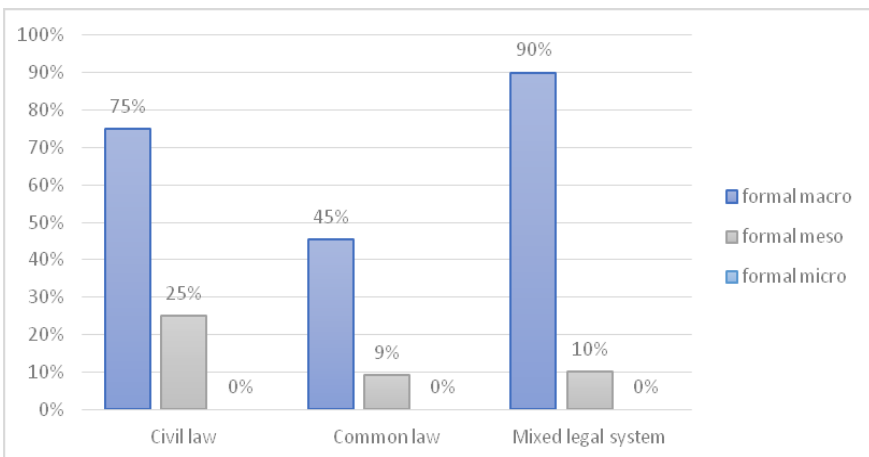
Figure 2: Entrepreneurial ecosystem and institutions discussion in civil, common, and mixed legal systems



4.1.1. Formal Institutions

Formal institutions at macro level are those applied on a nation-wide basis and identified by the authors of the reviewed articles as being of relevance for the entrepreneurial ecosystem in question. As shown in Figure 3, formal macro and meso institutions are more frequently discussed in the entrepreneurial ecosystems of countries with civil legal system and mixed legal system.

Figure 3: Discussion about formal institutions at macro, meso, and micro level of analysis of entrepreneurship ecosystem in three legal systems



Civil Legal Systems

The formal institutions discussed in entrepreneurial ecosystems at macro level in the civil legal system countries are specific government crafted laws. These formal rules are also characterized as top-down governmental policies and are examined in detail by the authors, who point out their requirements, the level of strictness, the extent to which the laws impose some “costs”, and their impact on investors, workers, entrepreneurs, innovators, and students. For example, Cicchiello (2019) examined the regulatory barriers around equity crowdfunding and their impact on the entrepreneurial ecosystem in a number of European countries, such as Spain, France, and Italy, all of which have a civil legal system. In these cases, the barriers identified were government laws and national policies, which impact on entrepreneurial finance. Some examples are the law for investments in equity crowdfunding (France and Italy) or the Law on the Promotion of Corporate Financing (Spain). In addition, Pillai et al. (2017) discussed the regulation on entrepreneurial ventures in the context of the ecosystem in Lao PDR/Laos, while Kshetri (2014) described South Korea’s bankruptcy laws as non-forgiving towards entrepreneurs as well as the importance of South Korea’s and Estonia’s antitrust and competition laws for enabling new ventures to access the market. Studies conducted on ecosystems in civil legal systems, such as in European countries, also highlight the importance of international instruments, e.g. the OECD and EU level regulations.

Formal institutions at meso level are those which are relevant to a specific region or organization, in this case discussed as applicable to the entrepreneurial ecosystem framework. As shown in Figure 3, meso level formal institutions in ecosystems in civil legal systems remain a relevant concern for the researchers in entrepreneurial ecosystems. Throughout the studies they appear in the form of local government initiatives, policies, strategies, plans targeted at regions and universities, or as entrepreneurship support structures such as incubators and accelerators. For example, Hsieh and Kelley (2020) investigated the relevance of university policies and the strategies related to entrepreneurship education (such as mentoring and construction of spaces) in the university-based ecosystems in Taiwan.

In summary, Table 1 presents the findings pertaining to formal institutions in entrepreneurial ecosystems in a civil legal system, at macro, meso, and micro level. Formal institutions are discussed both at macro and meso level, while the reviewed articles did not discuss any at micro level. At macro level the formal institutions are top-down government regulations and laws and top-down conventions introduced by international organizations such as the EU or OECD. It is important to stress that these are discussed irrespective of the level of development of the country analyzed. At meso level the formal institutions are policies, strategies, and plans, which are made by local government or organizations.

Table 1: Entrepreneurial ecosystem and formal institutions (civil legal system)

Level of analysis	Types of formal institutions	Who brought these institutions
Macro	Regulation Conventions	Government (top-down procedure) International organization (top-down)
Meso	Policies Strategies Plans	Local government Organizations
Micro	Not identified	Not identified

Common Legal Systems

As shown in Figure 3, formal institutions at macro level in ecosystems that operate in a country with a common legal system have been discussed to a lesser extent compared to the ecosystems in civil legal systems. This suggests a lower emphasis on macro level regulation by researchers when discussing ecosystems in countries with a common legal system. Moreover, the results indicated that the discourse around formal institutions differs in the ecosystems of developed countries with a common legal system, compared to the ecosystems in developing countries with a common legal system. For example, only one study has examined the impact of formal macro institutions on the entrepreneurial ecosystem of a developed country. In this case, Cicchiolo (2019) found that access to finance and crowdfunding in the entrepreneurial ecosystem in the UK is influenced by the British Government’s policy statement PS14/4, which, although a regulatory instrument, is not a law. Policy statements, unlike top-down government laws that are mentioned in most of the ecosystems in civil legal systems such as those in France, Italy, and Spain, are not necessarily top-down formal rules and usually prescribe no sanctions or penalty but solely recommend a type of behavior and provide certain classifications, differently from laws. All the other studies that discussed formal institutions at macro level are those that analyzed entrepreneurial ecosystems in developing countries in Africa and East Asia, such as Ghana and India. This implies that formal macro rules lose their importance in an ecosystem in a developed common law country. Formal institutions at the meso level in the ecosystems in a common legal system framework are discussed in only one case and referred to as “agreements”, while none of the studies mention formal institutions at micro level.

Therefore, as shown in Table 2, formal institutions in entrepreneurial ecosystems in common legal systems are government regulations in cases where the country is in the process of development. In developed countries with a common legal system, entrepreneurial ecosystem research tends to ignore top-down regulation such as laws and regulations. Instead, the formal institutions discussed at this level are policies, introduced by organizations, which may indicate a bottom-up approach to policy making. At meso level the formal

institutions discussed are organizational agreements, similar to the ecosystems in civil legal systems.

Table 2: Entrepreneurial ecosystem and formal institutions (common legal system)

Level of analysis	Types of formal institutions	Who brought these institutions
Macro	Policy	Organization (bottom-up procedure)
	Regulation (EE in development)	Judges (bottom-up and top-down) Government(top-down procedure)
Meso	Agreements	Organization
Micro	Not identified	Not identified

Mixed Legal Systems

Mixed legal systems are those in which the common or civil legal system is combined with custom, religion or philosophy. These are mainly found in former colonies that inherited the legal system of their colonizers, which is the case in a number of African countries. The vast majority of studies on the entrepreneurial ecosystem in the context of countries whose legal system is influenced by custom or religion refer to formal institutions at macro level (Figure 3). While discussing the entrepreneurial ecosystem of Botswana, Zambia, and Zimbabwe, Dana and Ratten (2017) pointed to the importance of national level regulation, which in these countries fosters entrepreneurial activities that contribute to the informal business economy. Furthermore, if the mixed legal system is composed of civil law and the religious or customary laws of the country, the studies often only refer to the specific government laws, that conform with civil legal system practices. In the case of mixed systems composed of a common legal system and customary or religious laws, the studies did not refer to specific top-down governmental regulation. The formal rules and regulation in such situations are instead discussed in abstract terms and referred to as obstacles and over-restrictive practices.

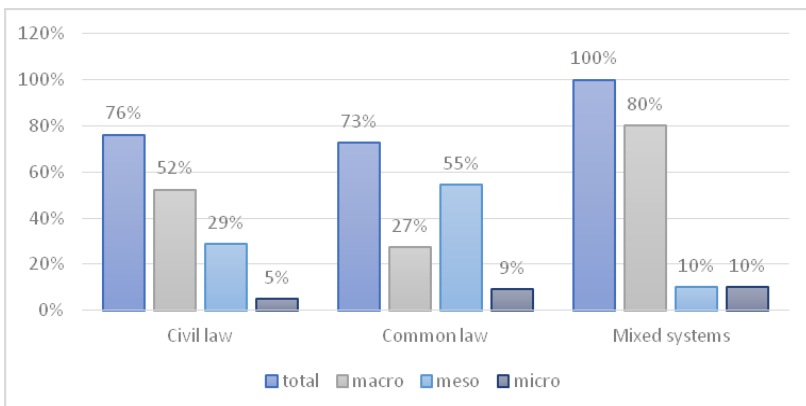
4.1.2. Informal Institutions

Unlike formal institutions, there is more homogeneity in the types of informal institutions that are found to matter for the ecosystems in civil, common, and mixed legal systems. The studies investigate informal institutions at all three levels: macro, meso, and micro. In both civil and common legal systems, the informal institutions discussed are centered around entrepreneurial culture, social norms, and values. Moreover, these attributes are discussed at every institutional level: macro, meso, and micro. For example, Allahar and Sookram (2019) found that in transitioning towards an entrepreneurial university in the Caribbean, the success of the university's mission will also be affected by the level of

development of an entrepreneurial culture across the university community. Lahikainen et al. (2019) found that collaborative culture within and outside the university helps grow successful university ecosystems in Finland. Similarly, Alam et al. (2019) discussed how a collaborative culture and support to entrepreneurs in a Canadian city helped grow successful entrepreneurial ecosystems. Cicchiello (2019) investigated entrepreneurial ecosystems based on crowdfunding in Europe and found that the entrepreneurial crowdfunding culture, and a more favoring entrepreneurial culture in general, needs to be strengthened at European Union level. The same author refers to a value such as trust as an important mechanism for promoting crowdfunding in entrepreneurial ecosystems in Italy and at European Union level in general.

From the data analysis it appears that any or all of the informal institutions are valid indicators of the discussion on entrepreneurial ecosystems at all levels, irrespective of a country’s development. As an example, Figure 4 shows the share of articles that analyze the role of a specific informal institution (*culture*), distinguishing between civil, common and mixed legal systems. It also further distinguishes between cases in which the culture, i.e. an informal institution, is analyzed at the macro, meso, or micro level. The figure shows that regardless of the legal origin of the country in which the entrepreneurial ecosystem is studied, the culture is almost always mentioned by the authors: in 76% of cases for civil legal systems, in 73% of articles that study countries with common legal systems, and in all of the studies that analyze countries with mixed legal systems. The main difference between the groups is the greater importance given to culture at the macro-national level in civil legal systems and mixed systems compared to common law systems. This suggests the greater importance of the meso-level features of culture (at the regional or organizational level) in entrepreneurial ecosystems in countries with a common law system.

Figure 4. Informal institutions: Distribution of culture in ecosystems at macro, meso, and micro level in common, civil, and mixed legal systems



4.2. Summary of the Critical Literature Analysis

The patterns that emerged from this critical literature review analysis show some crucial differences between civil, common or mixed legal system countries in terms of the relevance of formal and informal institutions at macro, meso, and micro level for the entrepreneurial ecosystem discourse. These patterns led to a set of propositions, each presented and discussed in Table 3 as well as below.

Table 3: Rules in Entrepreneurial Ecosystems divided into Civil, Common or Mixed legal system

Legal system of belonging	Level of analysis	Types of Formal rules	Informal rules
Civil legal system	Macro	Governmental laws and regulations	Culture Social norms Values
	Meso	Organizational regulation	Culture Social norms Values
	Micro	Not identified	Not identified
Common legal system	Macro	*Only if in development (regulation: court decisions, government regulation)	Culture Social norms Values
	Meso	Organizational regulation	Culture Social norms Values
	Micro		
Mixed legal system	Macro	*If civil legal system + (Governmental laws and regulations)	Culture Social norms Values
	Meso	Not identified	Culture Social norms Values
	Micro	Not identified	Culture Social norms Values

Proposition 1: *Entrepreneurial ecosystem researchers have failed to take formal institutions in developed common law countries into account.*

An initial finding is that formal macro level institutions, such as rules and regulations, are of little relevance for the analysis of ecosystems in developed countries with a common legal system. The reason for the lack of discussion of formal institutions at the macro level in ecosystems in common legal systems may

be that common legal systems rely less on top-down government regulations, compared to those in countries with a civil legal system. Moreover, the sources of formal institutions in common legal systems are court decisions, in addition to government regulation, which may have implications for the type of institution that could be referred to in the context of the ecosystem. One plausible explanation is that there are no court decisions that are relevant to the ecosystem and thus the ecosystems' formal constraints or institutions are discussed to a lesser extent. This is especially the case in developed countries with civil legal systems (such as France, the Netherlands or Italy), where government regulation as a type of formal institution is always indicated as relevant in the reviewed studies.

Proposition 2: Entrepreneurial ecosystem researchers tend to focus on formal macro level institutions in civil legal systems such as top-down government policies, irrespective of a country's level of development.

Secondly, the analysis showed that formal institutions at the macro level that are considered relevant for the ecosystems in countries with a civil legal system are top-down government policies. These have been discussed to a larger extent in countries with civil legal systems, irrespective of the level of the countries' economic development. Moreover, the analysis revealed that in countries with a civil legal system, formal institutions at the meso level are still considered relevant in the analysis of the entrepreneurial ecosystem. Such meso level formal institutions are mainly regional and organizational policies, such as local government laws for example.

Proposition 3: Informal institutions in entrepreneurial ecosystems at the macro, meso and micro levels in civil, common, and mixed legal system countries overlap in the literature reviewed and are discussed, irrespective of the legal system classification or the level of economic development.

Third, the type of legal system does not influence the type of informal institutions that are considered relevant for the entrepreneurial ecosystem. This is true for all levels of analysis (macro, meso or micro). Informal institutions that are considered important are the same in every country and include culture, social norms, and values. In addition, the level of economic development of the country does not influence the types of informal institution that are considered by the authors of the studies.

4.2.1. What the Reviewed Studies Did Not Investigate: The Interplay Between Informal and Formal Institutions

None of the studies investigated the interplay between formal and informal institutions or the formalization of informal institutions such as customs, in the context of entrepreneurial ecosystems. The role of customs as informal institutions represents an interesting topic for investigation in light of the relationship between the formal and informal rules in entrepreneurial ecosystems. For example, due to broader rules and emphasis on oral arguments, customs and customary norms such as informal rules may be important in contractual relationships in ecosystems in countries with a common legal system. In countries with a civil legal system such as Italy, France or Spain, the contract between the parties collaborating in the entrepreneurial ecosystem is regulated and formal, while in countries with a common legal system such as the UK or USA, this contract is in most cases more flexible. This is because in common legal systems not only the law regulates the contract, but also the so-called “implied rules”. Implied rules are not explicitly written in any law but are still applicable to a given situation. How do we know which rules are implied if they are not explicitly written in any place or record? We know because the implied rules in countries with a common legal system are those that are the custom in a certain specific situation rather than a formal legal text. Therefore the source of the implied rules is the custom embodied in the established modes of behavior over a longer period of time, that in this case also possesses formal legal authority, and hence has a force of law. And this may have some implications, in light of the behavior of ecosystem parties and organizations, in terms of their interaction and consequently, for entrepreneurial ecosystem dynamics.

5. Conclusion and Implications

This critical review analysis provides several insights for the discussion on entrepreneurial ecosystems when it comes to the relevance of formal and informal institutions, their identification and sources. These insights allow us to answer the question of which types of formal and informal institutions matter in entrepreneurial ecosystems in a civil or common legal system.

The critical literature review shows that in existing studies, formal institutions are discussed to a greater extent in entrepreneurial ecosystems in a civil legal system, both at macro and meso levels, irrespective of the country’s economic development. In these studies formal institutions are identified as top-down government regulations, such as national or regional laws and policies. In contrast, in countries with a common legal system, the level of economic development matters: if the common legal system country is in the process of development then the studies on entrepreneurial ecosystems mention formal

institutions at the macro level, although without going into greater detail. Studies of entrepreneurial ecosystems in developed countries with a common legal system do not take formal institutions into account. This suggests a more limited role for the state and its intervention in the governance of entrepreneurial ecosystems in developed countries with a common legal system, compared to countries with a civil legal system. According to the studies in this literature review, in developed common law countries the interactions between the economic actors who are part of the ecosystem are not affected to any great degree by formal institutions such as national regulations and national policies. On the contrary, in order to understand the functioning of entrepreneurial ecosystems in civil law countries and in developing countries (even those with common law), existing studies highlight the importance of acknowledging the role of formal institutions at the macro level. The economic and institutional actors that contribute to the development of entrepreneurial ecosystems are far more influenced by the top-down policies introduced by legislators at national level, which are considered a crucial element for the governance of ecosystems in the studies reviewed.

Informal institutions instead tend to be less fragmented in the discussion on entrepreneurial ecosystems and institutions, irrespectively of the country's legal system. This means that researchers seem to share the same or a similar vision of which informal institutions matter for the discourse around entrepreneurial ecosystems. In the majority of the studies similar types of informal institutional factors have been considered relevant by the authors, such as the degree of risk taking behavior by economic actors (and the corresponding fear of failure), the levels of trust and transparency of business practices, the levels of corruption, and the status of the entrepreneur in society. In the majority of cases, all these factors are considered to play a similar role regardless of the country and the type of legal system in place: for example, risk taking behavior and a high level of trust are always considered a positive factor. Hence, the finding that informal institutions are not affected by the type of legal system may also be due to the fact that all studies considered a similar set of behavioral factors that are supposed to be conducive to the success of entrepreneurial ecosystems. This may be either because the same informal institutions actually promote the development of entrepreneurial ecosystems, regardless of the specific country context, or due to the use of similar theoretical assumptions by the researchers, about what an entrepreneurial ecosystem *should* look like from an institutional perspective.

The analysis performed in this study is not free of limitations, the main one being the limited number of journal articles identified that analyze entrepreneurial ecosystems with a focus on institutions, as these provide the main source of information for this study. While this speaks to the relative novelty of the institutional approach in entrepreneurial ecosystems research, it also implies that the findings of this emergent literature cannot yet be considered as established facts, but rather as initial evidence that needs to be supported by future studies. Furthermore, this paper reports a review of relevant studies published

during a certain time span from 2011-2020. If some important reforms have taken place more than 10 or 20 years ago, they may not be acknowledged by more recent studies of the entrepreneurship ecosystem in a given country. Therefore, the time span adopted in this review may have influenced the relative importance given by some authors today to important institutional changes of the past.

Several implications emerge from this study. Firstly, considering the large degree of heterogeneity found for the role of formal institutions, it cannot be excluded a priori that some different nuances also may exist between informal institutions in different countries. If that is the case, future research could consider exploring the role of informal institutions in greater depth to see whether it is really the case that the same factors are important for the successful growth of entrepreneurial ecosystems. Secondly, an interesting element so far overlooked by entrepreneurial ecosystem research is that the legal system may have an impact on the informal institutions of the country and vice versa. Indeed, in certain legal systems of a mixed nature, customs as one type of informal institution may transition and be adopted as a formal institution through a predefined procedure. Future research on entrepreneurial ecosystems should therefore consider investigating in which situations or under which circumstances informal institutions such as customs may become formal, and the implications of this for the development or functioning of the ecosystem. Finally, one factor that has not been considered so far by existing studies concerns the specific source of formal rules: while these are typically government procedures in civil legal systems, they are court decisions in common legal systems. This difference between the sources of formal institutions may have a diverse impact on the behavior of actors in the entrepreneurial ecosystem and thus warrants further investigation by future studies.

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Appendix

Table A1: Sample of excluded articles

Study	Reason for exclusion
Tiba et al. (2020)	No particular elaboration on one or more different types of institutions linked to a country/region
Honjo & Nakamura (2020)	Irrelevant to the main subject
Peterson (2020)	Irrelevant to the main subject
Miles & Morisson (2020)	No particular elaboration on one or more different types of institutions linked to a country/region
Franco et al. (2020)	No particular elaboration on one or more different types of institutions linked to a country/region
Mason et al. (2020)	Irrelevant to the main subject
Yamamura & Lassalle (2019)	No particular elaboration on one or more different types of institutions linked to a country/region
Cao & Shi (2020)	No particular elaboration on one or more different types of institutions linked to a country/region
Shekhar & Bodnar (2020)	No particular elaboration on one or more different types of institutions linked to a country/region
Harima et al. (2020)	Irrelevant to the main subject/aim
Robertson et al. (2020)	No particular elaboration on one or more different types of institutions linked to a country/region
Spigel & Vinodrai (2020)	No particular elaboration on one or more different types of institutions linked to a country/region
Vlasova et al. (2020)	Irrelevant to the main subject/aim
Prencipe et al. (2020)	No particular elaboration on one or more different types of institutions linked to a country/region
De Brito & Leitao (2020)	No particular elaboration on one or more different types of institutions linked to a country/region
De Araujo Ruiz et al. (2020)	No particular elaboration on one or more different types of institutions linked to a country/region
Nicholls-Nixon et al. (2020)	No particular elaboration on one or more different types of institutions linked to a country/region
Ierapetritis (2019)	No particular elaboration on one or more different types of institutions linked to a country/region
Cavallo et al. (2019)	No particular elaboration on one or more different types of institutions linked to a country/region
Porrás-Paez & Schmutzler (2019)	No particular elaboration on one or more different types of institutions linked to a country/region
Bhardwaj (2019)	No particular elaboration on one or more different types of institutions linked to a country/region
Roundy (2019)	No particular elaboration on one or more different types of institutions linked to a country/region
Nejabat & Van Geenhuizen (2019)	Irrelevant to the main subject/aim

Munoz & Kimmitt (2019)	Irrelevant to the main subject/aim
Chohra (2019)	No particular elaboration on one or more different types of institutions linked to a country/region
O'Brien et al. (2019)	No particular elaboration on one or more different types of institutions linked to a country/region
Waish (2019)	No particular elaboration on one or more different types of institutions linked to a country/region
Hechavarria & Ingram (2019)	No particular elaboration on one or more different types of institutions linked to a country/region
Neumeyer et al. (2019a)	No particular elaboration on one or more different types of institutions linked to a country/region
Yan & Guan (2019)	No particular elaboration on one or more different types of institutions linked to a country/region
Roundy (2019)	Irrelevant to the main subject
Brown et al. (2019)	Irrelevant/to the main subject
Sunny & Shu (2019)	Irrelevant to the main subject
Corrente et al. (2019)	Irrelevant to the main subject
Neumeyer et al. (2019b)	No particular elaboration on one or more different types of institutions linked to a country/region
Roundy & Fayard (2019)	No particular elaboration on one or more different types of institutions linked to a country/region
Bhawe & Zahra (2019)	No particular elaboration on one or more different types of institutions linked to a country/region
Bennett (2019)	Irrelevant to the main subject

Table A2: Coding scheme

ID	Macro level		Meso level		Micro level		Name of country	Civil/common law	Title of the paper
	Formal	Informal	Formal	Informal	Formal	Informal			
1.		Culture, Values					Poland	Civil law	Brooks et al. (2019)
2.	Policy statement	Values					UK	Common law	Cicchello (2019)
3.	Gov. top down	Culture					France	Civil law	Cicchello (2019)
4.	Gov. top down	Culture, Values					Italy	Civil law	Cicchello (2019)
5.	Gov. top down	Culture					Spain	Civil law	Cicchello (2019)
6.	Gov. top down	Culture					United Arab Emirates	Mixed system (Civil)	Aljarwan et al. (2019)
7.				Social norms			USA	Common law	Choi & Markham (2019)
8.		Culture					China	Civil law	Lai & Vonortas (2019)
9.	Gov. top down	Culture					Mexico	Civil law	Villegas Mateos & Amoros (2019)
10.			Agreements	Culture			Caribbean	Common law	Allahar & Sookram (2019)
11.				Culture		Culture	Canada	Common law	Alam et al. (2019)

12.	Gov. top down	Culture					Japan	Civil law	Hemmert et al. (2019)
13.	Gov. top down	Culture, Values, Social norms	Local gov. policies	Culture			China	Civil law	Hemmert et al. (2019)
14.	Gov. top down	Culture	Local gov. policies			Values, Social norms	Korea	Civil law	Hemmert et al. (2019)
15.			Policies and strategies	Culture		Values, Social norms	Finland	Civil law	Lahikainen et al. (2019)
16.	Gov. top down			Culture			Italy	Civil law	Colombelli et al. (2019)
17.	Gov. top down	Social norms	Policies	Culture			China	Civil law	Chen et al. (2020)
18.				Culture			UK	Common law	Pugh et al. (2019)
19.		Social norms				Culture	25 EU countries	Common/Civil Law	Content et al. (2019)
20.			Policies	Culture			Taiwan	Civil law	Hsieh & Kelley (2020)
21.	Gov. top down	Culture				Culture	Russia	Civil law	Szerb & Trumbull (2018)
22.	Gov. top down	Culture					Romania	Civil law	Paina-Racolta (2018)
23.	Gov. top down	Culture					Sub-Saharan and North African countries	Mixed system (D)	Atiase et al. (2018)
24.	Gov. top down	Culture					Austria	Civil law	Radinger-Peer et al. (2018)
25.				Culture			USA	Common law	Harper-Anderson (2018)
26.				Culture		Culture	Malaysia	Common law	Pillai & Ahamat (2018)
27.	Gov. top down			Culture		Culture	Lao PDR/Laos	Civil law	Pillai & Ahamat (2018)
28.	Gov. top down	Culture				Culture, Values	Canada	Common law	Spigel (2017)
29.	Gov. top down	Culture					Botswana	Mixed system (D)	Sheriff & Muffatto (2015)
30.	Gov. top down	Culture					Egypt	Mixed system (Civil)	Sheriff & Muffatto (2015)
31.	Gov. top down	Culture					Ghana	Common law	Sheriff & Muffatto (2015)
32.	Gov. top down	Culture					Uganda	Mixed system (D)	Sheriff & Muffatto (2015)
33.	Gov. top down	Culture					Estonia	Civil law	Kshetri (2014)
34.	Gov. top down	Culture					South Korea	Civil law	Kshetri (2014)
35.	Policy statement	Culture					India	Common law	Sandhu et al. (2017)
36.	Gov. top down	Culture					Ghana	Common law	Amankwah-Amoah (2018)
37.	Gov. top down	Culture					Botswana	Mixed system (D)	Dana & Ratten (2017)
38.	Gov. top down	Culture					Zambia	Mixed system (D)	Dana & Ratten (2017)
39.	Gov. top down	Culture					Zimbabwe	Mixed system (D)	Dana & Ratten (2017)

40.				Culture			Scotland	Mixed system (Common)	Spigel (2016)
41.	Gov. top down					Culture	Israel	Mixed system (Civil)	Schafer & Henn (2018)
42.	Gov. top down	Culture					Netherlands	Civil law	Stam (2014)