Chapter 4
Assessing the Maturity of Crowdfunding and Alternative Finance Markets

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Abstract In order to assess how public authorities and crowdfunding platforms can collabo-rate, it is essential to understand the different levels of maturity of the Crowdfunding ecosystem. The chapter analyses concepts developed in the crowdfunding literature. It establishes a unified framework to understand the increasing complexity of crowdfunding industries, by discussing the conceptual framework of Crowdfunding success. It proceeds to describe several models of maturity of industries by applying entrepreneurial ecosystem theory to the alternative finance space. Lastly, it transfers entrepreneurial ecosystem theory to the alternative finance regulation and the four scenarios of fitting crowdfunding and alternative finance into existing regulation.

Keywords Crowdfunding · Alternative finance · Regulation · FinTech · Maturity · Self regulation

4.1 Introduction, Motivation and Methodology

The European Union has introduced a new European Crowdfunding Service Provider Regime (European Commission 2018b; European Parliament 2019; European Union 2020) in 2020, which intends to harmonize regulatory frameworks in Europe and overcome existing fragmentation (Wenzlaff et al. 2020). The European

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Commission initiated a consultation process with stakeholders on the appropriate regime by publishing the impact assessment (European Commission 2018a). Both the market participants and the member states replied to the European Commission by cautioning that a harmonized regulatory framework might not be suitable for all member states (Wenzlaff and ikosom 2017).

The notion underlying this debate is of maturity of alternative finance ecosystems, in particular, the maturity of the crowdfunding ecosystem. Maturity in the context of crowdfunding is understood very differently by scholars. The maturity of crowdfunding ecosystems and the role of regulation in enabling the growth of the CF market has been discussed scarcely, even though that regulation of crowdfunding is a frequent topic in the literature.

Therefore, this chapter aims to develop a framework for maturity of crowdfunding ecosystems, with a particular emphasis on the regulatory framework for crowdfunding markets. The chapter contributes to research by comparing several methods on how to assess the maturity of ecosystems and crowdfunding ecosystems in general, and which factors enable a crowdfunding ecosystem to mature, with one crucial factor being the regulatory setting. The new framework features are more nuanced approach to the relationship between regulation and the crowdfunding ecosystem. A dichotomous approach of no regulation vs bespoke regime is abandoned by developing a four-stages model which also includes "stretch-to-fit" and "test-to-learn" approaches of regulators towards the platforms.

This chapter is intended as a starting point for debate, not as the conclusion of the debate. This debate will be enhanced in the future with more ample empirical evidence. The chapter is structured as follows: Section 4.2 reviews the literature on the determinants of success of alternative finance ecosystems. Section 4.3 discusses models for maturity of crowdfunding ecosystems. Section 4.4 discusses the development of regulatory frameworks in crowdfunding markets.

4.2 Success of Alternative Finance Ecosystems

The following section discusses various approaches to understanding the development of crowdfunding ecosystems. Ecosystem discussions are a frequent tool in management studies to elaborate on the changing dynamics of co-operation among competitors (Moore 1997; Iansiti and Levien 2004a, b). Analyses of ecosystems commonly identify the advantages of a multi-stakeholder development process through the lens of network theories and system theories.

The analysis of Entrepreneurial Ecosystems follows this line of thinking (Stam and Ven 2018; Acs et al. 2017). As one example out of many, Stam and van de Ven (2018) identify four framework conditions (Formal Institutions, Culture, Physical Infrastructure and Demand Conditions) and six systemic conditions (Networks, Intermediaries, Talent, Knowledge, Leadership, Finance) which all impact the output of an entrepreneurial ecosystem. Based on the analysis of the metrics of these framework and systemic conditions, they develop an index to rank the promotion of entrepreneurial activity by the Dutch regions.

In their literature review, Cai et al. (2019) show that this approach, combined with theories of social capital, is also applicable in the crowdfunding literature. Kshetri (2015) is one of the earliest papers to analyze the effect of both formal and informal institutions on success of crowdfunding platforms (not individual projects). He outlines a research agenda, which unfortunately was not pursued in academic literature. He argues that a clear regulatory framework in equity-based crowdfunding reduces uncertainty and improves the success rate of crowdfunding platforms. Furthermore, countries with a more favorable entrepreneurial climate would treat equity-based crowdfunding more favorably. Authoritarian regimes, in contrast, do not allow the operation of crowdfunding platforms, because the increased competition threatens traditional financial institutions. He also proposes that attitudes towards online transactions have an impact on the success of crowdfunding platforms. Additionally, trust between strangers in a society allows crowdfunding platforms to grow quicker. Societies where welfare and charity elements are more common tend to be more supportive towards donation- and reward-based crowdfunding. Finally, self-regulation-mechanisms help crowdfunding platforms to avoid regulatory uncertainty and thus positively impact success of crowdfunding platforms.

In line with Kshetri, Rau (2017) used data from the Cambridge University Center Alternative Finance Benchmarking Studies to assess empirically the impact of formal and non-formal institutions on the development of alternative finance ecosystems. He finds that the rule of law, the quality of regulation, the control of corruption and ease of entry into the market are positively associated with the volume of crowdfunding markets, but he does not provide evidence for the hypothesis of Kshetri that social norms, which have an impact on trust within society, matters.

4.3 Models for the Maturity of Ecosystems

Management literature develops models to describe the maturity of ecosystems. For instance, Cukier and Kon (2018) introduce a model for the maturity of software startup ecosystems. Based on metrics such as available exit strategies, quality of accelerators, number of startups and angel funding, they develop a four-tiered model of software startup ecosystems. From Nascent ecosystem, via Evolving ecosystem and Mature ecosystem to Self-Sustainable ecosystem, the output efficiency and the resilience to external developments are used to define the maturity of software startup ecosystems. Cukier and Con then apply this maturity taxonomy to several startup ecosystems (Tel-Aviv, São Paulo, and New York). From their approach, it can be deduced that an effective method to develop a maturity model of ecosystems has the following components:

1. A list of organizations populating an ecosystem (businesses, business associations, governments, academic institutions, networks).
2. A list of interactions between these organizations (such as regulatory frameworks, self-regulation frameworks, business conducts, formal and informal interactions).
3. A list of metrics which measure the efficiency of an ecosystem, measuring the quality and quantity of interactions, resulting in a ranking of often geographical entities.
4. A clustering of geographical entities depending on their position in the ranking.

To address the first and second component in crowdfunding, it is instructive to refer to Gromek (2017, 2018). When discussing the digital ecosystem of crowdfunding, Gromek lists several characteristics of a well-functioning ecosystem and gives examples for each characteristic. These characteristics are as follows:

1. Cooperation between crowdfunding platforms and regulated intermediaries, such as banks and stock exchanges.
2. Existence of crowdfunding associations—Gromek refers to the Danish Crowdfunding Association, whose function has been taken over by the Nordic Crowdfunding Alliance.
3. Existence of self-regulation and codes of conducts adhered to by the platforms—Gromek refers to the Code of Conduct the UK Crowdfunding Association, which has also been formative for other Codes of Conduct in Europe (Odorović and Wenzlaff 2020).
4. Accelerator programs for crowdfunding platforms and/or projects/SMEs aiming to use crowdfunding to access finance, as well as business Environment Solutions providing coaching and support for crowdfunding campaigns—Gromek refers to the Accelerator program like the Crowdfunding Hub in the Netherlands (Kleverlaan and Wright 2017; Crowdfunding Hub 2015).
5. Public policies which support crowdfunding campaigns, such as tax incentives for investors in crowdfunding campaigns—Gromek refers to the EIS/SEIS Scheme in the United Kingdom (Vulkan et al. 2016; Hellmann et al. 2019; Ralcheva and Roosenboom 2016).
6. Independent academic analysis—Gromek refers to the Stockholm Fintech Report (Gromek 2018) and other examples of academic analysis of the sector.
7. An open dialogue between platforms and regulator and a regulator who has the mandate to expand the market—Gromek tells the story about the so-called Crowdfunding Fika, a monthly coffee-meeting of the Crowdfunding Industry in Sweden with the Swedish Regulator.

Although this list is seen through the lens of the Swedish crowdfunding ecosystem, it is instructive insofar as it mentions several stakeholders which are part of a mature ecosystem: Platforms and their associations, Project-Owners, Supporters and Investors, Policy Makers and Regulators, Banks, Stock Exchanges and other regulated financial intermediaries, and their associations, Academic Institutions.

Table 4.1 Maturity stages for crowdfunding ecosystems

Seed stage	Growth stage	Mature stage
Dominant type of CF		
Donation-based	Reward-based, emerging equity and lending-based	Equity- and lending-based
Role of international platforms		
International platforms dominate volumes, local platforms nascent	Local platforms compete with international platforms, are creating niche services	Local platforms are more successful than international platforms
Crowdfunding regulation		
No specific CF regime	CF regime incorporated in capital markets regime	Specific CF regime—Bespoke CF regime
Crowdfunding associations		
Very little informal dialogue between platforms	Informal network of platforms	Associations of platforms with self-regulation

It is possible to add several more stakeholders to this list. For instance, financial advisory services (regulated or not regulated) are also part of this ecosystem, which play an essential role building trust among market participants.

Gromek suggests a set of interactions which can foster the ecosystem, such as the regulatory framework, self-regulation frameworks of the industry, public support schemes, academic verification of data and trends, cooperation between non-regulated intermediaries and regulated intermediaries, dialogue between policymakers and industry representatives.

Building upon this model of stakeholders and their interactions, Wenzlaff (2019) proposes that Crowdfunding ecosystems across the globe are very different in their development and therefore need different policy frameworks for the development of their markets. Based on research by the Cambridge Center for Alternative Finance in Africa and Asia (Zhang et al. 2017; Garvey et al. 2017; ASEAN 2017), he develops a three-tier maturity model, with ecosystems transforming from the Seed State to the Growth Stage to the Mature Stage.

Wenzlaff proposes that each maturity stage can be identified by merely looking at the presence of Crowdfunding business models (Table 4.1). He suggests that Seed Stage crowdfunding ecosystems are dominated by donation-based Crowdfunding platforms, as those have the least regulatory burden. As crowdfunding ecosystems mature, reward-based, equity-based and lending-based crowdfunding platforms enter the market. With further development of the ecosystem, local platforms can now compete with the international platforms, because they are better equipped to deal with local regulation and self-regulation of the industry, which is introduced by crowdfunding associations forming at the mature stage of the industry.

Policymakers should adopt initiatives suited to each stage. He advises designating a central body within the government to promote the sector. This central body should be in charge of identifying best practices and industry data, not necessarily as a government function, but providing the budget to academia to generate data. This body could also stimulate the interaction between the main stakeholders in the industry.

At the seed stage, according to Wenzlaff, the crowdfunding ecosystem can benefit from training, both of SMEs and Consultants. At the growth stage, governments should facilitate an open dialogue within the industry and regulators. The growth stage is also suitable for introducing co-financing schemes. Specific rules to regulate platforms and issuers are introduced at the mature stage. Wenzlaff advises building on existing regulatory regimes in order to make the local ecosystem compatible.

The three-tier model can be expanded easily. One could argue that after reaching the mature stage, crowdfunding services are integrated into the traditional financial systems. This "integrated stage" sees both new as well as traditional service providers using new digital technologies, such as crowdfunding platforms, but without the customer being able to distinguish between FinTechs and Banks, for instance.

Introducing a five-tier model for alternative finance, Kleverlaan (2016) proposes to distinguish ecosystems by specific indicators of maturity. He employs these indicators to develop an alternative finance maturity index (Kleverlaan and Wright 2017).

The first stage (Pre-Mature) is characterized by small platforms and mostly unregulated crowdfunding markets. The second stage (Expansion) sees first platforms to move beyond a crowdfunding volume of more than € 5 m in total. Like Wenzlaff (2019), he suggests that the maturity of an ecosystem increases when more alternative finance business models are offered by the platforms, which make use of the existing regulation. In response to the inadequate regulation, industry associations are formed that use self-regulation to guide the market. The third stage (Competition) sees platforms becoming sustainable and having a volume of more than € 50m in total. The third stage has the characteristic of having a specific Crowdfunding regulatory regime and wide-spread integration into the financial industry. Kleverlaan proposes that at the third stage, the alternative finance industry comprises up to 10% of the total finance market for a specific industry (e.g., SME business lending).

The final two tiers in the model of Kleverlaan relate to crowdfunding ecosystems which see a certain level of saturation. The fourth stage (Consolidation) displays mergers of platforms and the formation of separate associations along the lines of crowdfunding business models. Kleverlaan proposes that the fourth stage is characterized by a market share of at least 10%, at the most 20% of total SME funding. The final fifth stage (Mature Industry) is characterized by a market share of more than 20%. Kleverlaan proposes that at this stage, crowdfunding becomes an integral part of the financial industry.

Kleverlaan proposes that the transformation of the industry from one stage to the other is characterized by specific measures (Table 4.2). In the field of stakeholder education, he proposes to move from industry roundtables to formal certification of market participants. Similarly, in regulatory efforts, he proposes to move from open dialogue to a specific regulatory regime.

The three maturity taxonomies by Gromek, Wenzlaff and Kleverlaan have the central role of regulation in common. Given that the interaction between market

Table 4.2 Transformation of maturity stages

Stage	Regulation	Education
From pre-mature to expansion	Open dialogue	Industry roundtables Independent advisors
Expansion to competition	Clear regulation Public support	Collective promotion of success stories, regular publications of growth in the industry Training of advisors
From competition to consolidation	Investor protection Transparency on defaults	Independent academic research, certification of advisors, training and financial experts, governmental promotion
From consolida-tion to mature industry	Integrated completely into financial regulations	Formalized certification of financial experts, included in the curriculum of management and finance students

Table 4.3 Table of CF regulation

Outside the regulatory perimeter	Stretch to fit approach
Test-and-learn approach	Bespoke regime

participants and emerging regulatory frameworks have an enormous impact on the acceptance of new technologies in finance, it is no surprise that in all of the proposed models the stage of regulation is indicative of the stage of maturity of the whole system.

4.4 Maturity of Regulatory Frameworks

In the analysis of the Benchmarking reports, Odorović and Ziegler (Odorović et al. 2020) provide a more comprehensive framework for analyzing crowdfunding regulatory frameworks. Unlike the previous models, they propose two different paths from an unregulated crowdfunding ecosystem to a crowdfunding ecosystem with bespoke crowdfunding regulation (Table 4.3).

Odorović and Ziegler argue that crowdfunding platforms often escape regulatory oversight before crowdfunding becomes widespread or, in their view, poses a threat to financial stability. Until then, regulators embrace a "wait and see" strategy. For instance, in many markets, regulatory authorities do not classify equity-based crowdfunding platforms as investment brokerage firms to avoid placing a heavy burden on the platforms. This approach can also have adverse effects on the platforms, for instance when peer-to-peer lending requires a banking license, and therefore no platforms develop. If crowdfunding platforms and issuers fall outside the existing regulatory perimeter, crowdfunding platforms sometimes use self-regulation to fill gaps in the regulation, to protect the industry's reputation. For instance, Finance Estonia has created a self-regulatory system for crowdfunding—Estonia has the highest volume of crowdfunding per capita in Europe (Finance Estonia and Deloitte Legal Estonia 2016; Ziegler et al. 2019).

The second scenario entails the interpretation of existing rules developed for conventional financial models to target the risks arising from new models. This "stretch-to-fit" approach requires equity crowdfunding platforms to have a license as an investment firm. The problem with the stretch-to-fit-approach is that crowdfunding platforms have to bear the cost of compliance with rules which do not necessarily fit their business model. An example is the equity-based crowdfunding industry in Germany, which relies on subordinated loans and profit participation certificates as equity substitutes to escape the regulatory treatment of "transferable securities" and trigger prospectus requirements (Klöhn, Hornuf, and Schilling 2015).

The "test and learn" approach, in the third scenario, allows innovation to develop alongside the business models of crowdfunding platforms. This scenario uses three types of learning methods. Innovation offices are a way to engage regulators with industry members to understand technology solutions in the market. Regulatory sandboxes allow certain fintech providers to emerge, relying on a more lenient regulatory regime prior to formal licensing. SupTech are initiatives where the regulatory authority requests fintech firms to provide data, which allows regulators to supervise the market in real-time.

The last scenario is a Bespoke Regulatory Framework, which includes a set of regulatory rules tailored to the needs, capacities and risks of the crowdfunding business model. The risk of a bespoke regime is that a tailor-made system is adopted too early, leading to a regulatory failure and stifling market innovation. Several regulators in Europe have introduced quite different tailor-made systems for crowdfunding, leading to significant fragmentation of the European crowdfunding market.

The shift from one stage to another is far from universal across Europe. In some jurisdictions, regulators jumped straight to stage four, creating a bespoke regime way before the industry matured. The example is Italy, which introduced equity crowdfunding regulation back in 2013. Most jurisdictions experience stages two and four, firstly trying to fit crowdfunding models into the existing regulatory framework for traditional intermediaries. Once realizing that the existing rules do not fit the purpose of the newly emerging industry, they introduce bespoke regimes.

France is an illustrative example. The most cautious approach is to allow for the 'test-and-learn' stage, during which regulators closely monitor the risks of a few market players and experiment with a more lenient regime, which serves as a basis for adopting a tailored regulatory regime in the future. However, this approach is also very resource-intensive for the regulator, and as such, has limited application in less developed countries.

The added value of the model developed in this chapter is that it recognizes that regulatory frameworks and crowdfunding ecosystems do not move along a straightforward path of maturity. On the contrary, practice across European states features very different regulatory paths. Further empirical research is needed to assess their effect on the maturity of crowdfunding markets.

4.5 Conclusion

This chapter has outlined diverse approaches to maturity of crowdfunding ecosystems used in crowdfunding research. One of the cornerstones of different models is to discuss the development of both informal and formal institutions, in particular, crowdfunding-specific regulatory framework. It has shown that the existing research analyzing the effect of institutions on the success of crowdfunding markets fails to take into account divergent paths of development of crowdfunding regulation. Instead of a dichotomous approach to regulation—unregulated vs bespoke regimes, the paper developed a more nuanced model with four stages of crowdfunding regulatory frameworks, which can be used to study various ways in which policymakers approach the crowdfunding phenomena. The chapter highlights that regulatory frameworks evolve along different paths.

Several questions require further theoretical and empirical research. First, little is known how regulators and policymakers choose their regulatory path or policy options to support the crowdfunding ecosystem. In particular, it is essential to understand how rules and support schemes conceived for traditional intermediaries affect the speed of transformation of the crowdfunding platforms and the adopting of a bespoke regime. For instance, one could argue that the more inadequate the rules are, the faster is the shift from one stage to the next.

Another essential research question might refer to formal and informal interactions between different stakeholders and their influence on the shift between different stages. For instance, one could argue that the tradition of informal dialogue between regulators and platforms support a "test-and-learn" approach.

Furthermore, it is necessary to understand better how the size of the crowdfunding industry affects the regulatory path and the institutions surrounding the industry. The bigger the industry, the higher the pressure to tailor the rules to their needs, but one could also argue that some regulators might adopt a bespoke regime ex-ante to stimulate the growth of a nascent industry. The peer-to-peer lending regime in Lithuania, for instance, was specifically designed to allow domestic lending platforms grow quicker than their European counterparts.

An important question is whether going through all stages of (regulatory) maturity produces the best result in terms of helping the crowdfunding industry to develop fast. Skipping one or more stages might produce better results, adopting specific regimes and support mechanisms to early might result in stifling the industry. This has to be analyzed along different periods spent on each of the stages.

This chapter contributes to the debate on this topic by linking existing research on ecosystems and maturity to developments in the crowdfunding markets, supporting policymakers to determine at which stage their crowdfunding ecosystems are and how to find the appropriate regulation.

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