Using Web Startups As A Paradigm Shift For Entrepreneurship In Troubled Economies
The Case of Greece

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Abstract

This thesis deals with the Greek web startup ecosystem and how different actors that participate in it affect it. While there have been numerous studies on web startups, most of them focus on the American market. The differences in cultures, policies, investment options and market structures across continents make those studies ineligible for the analysis of web startups in other countries. Furthermore, the current financial crisis that many countries have to deal with requires that a different approach be used.

In order to identify the principal factors that affect the Greek ecosystem, existing literature related to web startups and the major players that affect them is presented. Furthermore, a qualitative analysis, based mostly on interviews with people having a deep understanding of the current state of the web ecosystem in Greece, has been made to highlight the issues that need to be resolved so that Greek web startups can prosper. The arguments made by the interviewees are valuated with the usage of related studies.

The findings confirm that Greece has the potentials to support web entrepreneurs, especially at the earlier stages of their business. However, there are some major reformations that need to occur in the near future before that can happen. Those reformations and the overall approach required could potentially have an effect on other industries in Greece as well.
1. Introduction

After the Dot-Com bubble burst in 2010, web startups are booming again worldwide. The big startups such as Facebook, LinkedIn and Zynga are only a small fraction of the total web entrepreneurship. New technologies and the widespread adoption of smartphones drive the second big wave of startups.

In most cases, when someone thinks of web startups examples of American companies come to mind. Europe has also introduced some impressive services such as Skype, SoundCloud and Spotify. Still, all those companies originated from countries with stable and/or growing economies.

The last few years, however, a number of web startups from other countries are gaining global recognition. Web entrepreneurship is increasing in countries without any former notable software or web industries. Web companies located in countries that face financial difficulties are now attracting millions in foreign investments.

Some people say it’s the deliberation introduced by the Internet and the globalization of the markets for web and mobile services that enabled this phenomenon. Others say it’s the entrepreneurial bug of some individuals that remains unaffected by any difficulties. There are also those who support that startups are just a trend and the success of big multinationals provided the incentives for entrepreneurs to use startups as a way-out from their countries’ struggling economies.

Whatever the motives, the main question is whether those few companies are individual examples in their countries. If not, which seems to be the case, there are new web startup ecosystems formed that currently operate under different and more challenging circumstances. What are the main differences, what issues need to be resolved and how can startups create a healthy and vibrant environment to compete in a global scale?

In this thesis I will examine web startups in troubled economies. While the main actors remain the same as in established web startup ecosystems, traditional methods are difficult to be implemented there. My primary focus will be Greece. Greece is facing the biggest financial challenges in the European Union and yet has been home to a booming web community.
This paradox is in the core of my thesis. While there is sufficient literature on web startups, studies that try to analyze the ecosystem in which they operate as a whole are limited. Especially in troubled economies, where the environment is unstable and sometimes even hostile to the existence of startups, academic research focuses only on specific failure cases. This study has implications for countries with such economies that try to develop their network of web startups. Additionally, it will potentially become more relevant to them as Europe and other regions incur financial downturns.

This thesis started as an attempt to identify the key factors that affect the operations of web startups in Greece, from the initial step of company formation to the more complex steps of funding and going global. However, the implications of my research extend to other industries, not related to web activities, and it is my firm belief that entrepreneurs can benefit by keeping an open eye for ideas from the web startup ecosystem.

1.1. Research Question

This thesis attempts to analyze the Greek environment around web startups. My final goal is to understand the issues that web startups face by operating in Greece and try to find ways to resolve those issues.

In order to examine the various aspects that arise around this topic, it is important to come up with a research question that will be the main question that this thesis will try to answer:

Q: How can Greece support the growth of web startups?

In the pursuit of an answer for this research question, the thesis will provide a thorough analysis of the web ecosystem, based on both theoretical and practical
criteria. By creating an understanding of the surrounding landscape, strategic challenges, implications and tactics, I will eventually provide an answer to the research question.

1.2. Structure of the Thesis

Initially, a thorough literature review will address the components of web startup ecosystems. Existing theories about the role of each actor in the ecosystem will be presented and subtle connections will be made with the characteristics of troubled economies in mind. Basic definitions will be provided where necessary.

Following, the methodology used for the research will be presented. This is a qualitative study that was made primarily by the use of interviews. A framework for the analysis of web startup ecosystems in troubled economies was developed based on both the work of others and the suggestions of the interviewees.

Next, the findings of the research will be presented. Using the framework, the data collected during my research are evaluated in connection with the reviewed literature. There are also references to studies that complement the sayings of the interviewees.

Finally, the limitations of this study are discussed and suggestions for further research are made.
2. Literature Review

The purpose of the forthcoming chapter is to describe the characteristics of the web startup environment by explaining the roles of the major actors that affect it and how it varies across the world.

The first section provides the definition for “web startups” and “Greek web startups” that will be the basis for the analysis in this thesis. The second identifies the major actors in the web startup ecosystem and highlights the relationships between them. Finally, the third section describes the differences between the American web startup environment and less developed environments, especially in Europe.

The above information combined will provide the theoretical foundation under which web startups can be examined. It will also offer the criteria on which the Greek ecosystem will be investigated with regard to its current state and the changes that could improve its position in the global economy.

2.1. Defining Startups

Thanks to the growth of Facebook, Twitter and other social media people nowadays are familiar with the concept of web startups. However, when asked to define them, they will usually provide vague restrictions regarding the age and size of the company. Why would then most still categorize Facebook, a publicly traded company founded almost a decade ago with billions in revenues, as a startup? Why should Rovio, a Finnish company with 300 employees that received its first financing round in 2005, be a finalist for the “Best International Startup” at Techcrunh’s 2012 awards? And what do we mean by saying that Apple, Google and other tech companies embrace the “startup culture”?

At this point, it is essential to provide the definitions of startups that will be used throughout this thesis. During my research and the interviews I had, I noticed that not everyone shared the same opinion on what constituted a startup. The following
definitions should clarify which organizations I decided to take into consideration for the purposes of this thesis.

A definition of a startup that is very popular amongst the web community is provided by former Silicon Valley entrepreneur Steve Blank, according to whom a startup is a temporary organization formed to search for a repeatable and scalable business model (2010).

By using “temporary organization”, Blank emphasizes two characteristics of startups. First, a startup can take many forms; it may be a company, a spinoff from a multinational corporation or even a small team of people not represented by a legal entity. Second, an organization can be a startup only for a specific time. After that, the startup usually either grows to an established company or fails to succeed and halts operations. While there is no specific time limit for the categorization of a startup, typically there is a timeframe up to 5 years for the success of the venture.

The above definition though does not make any reference to one major characteristic of the startup activities: entrepreneurship and the risk and uncertainty that come with it. As defined by Howard Stevenson, entrepreneurship is the process by which individuals, either on their own or inside organizations, pursue opportunities without regard to the resources they currently control (1983). Entrepreneurs try through startups to implement a new business model or offer an alternative to common practices in some industries. They use startups as a vehicle to introduce innovative products and services. Eric Ries identifies the importance of this characteristic in his definition: a startup is a human institution designed to create a new product or service under conditions of extreme uncertainty (Ries, The Lean Startup, 2011). The several phases that a new endeavor goes through bear several risk factors that lead to a high overall risk and eventually to a high failure rate, especially in the early stages (Gelderen, Thurik, & Bosma, 2005).

A web startup can be defined as a startup whose operation is heavily dependent on the Internet. This definition is rather broad and contains a variety of different companies: online shops, web services and applications, mobile applications and generally every kind of software that has Internet at its core. The widespread use of the Internet, mobile devices and social media have supported the development of
new web technologies that, together with the lessons learned from the Dot-Com Bubble in 2000, enabled entrepreneurs develop new business models and a new wave of web startups (O'Reilly, 2007).

Finally, we need to clarify which startups are categorized as Greek. For the purpose of this thesis, we will limit our focus to startups that were founded in Greece. There are numerous examples of web companies registered abroad by Greek entrepreneurs but whose biggest part of operations takes place in Greece. This is usually done in order to benefit from investment opportunities and a more organized community abroad, e.g. “Daily Secret” whose Greek management team is located in New York, USA, and development team is in Athens, Greece. Those companies, while greatly beneficial for the Greek economy and web startup community, won’t be examined in this thesis because they don’t face the same challenges as other web companies that operate in the troubled Greek economy.

2.2. Actors in the Web Startup Ecosystem

For my thesis, I tried to follow an approach that would simplify the increased complexity of web startup ecosystems and progress by breaking down the main topic into smaller entities. As a result, the initial step was to identify the parts that consist a web startup ecosystem. However, the multifaceted nature of startups, the variety of financing opportunities available and the diversity of support and mentoring entrepreneurs receive constitute an environment in which the main actors cannot be easily distinguished.

In the following sections I will not only present the actors but also highlight the points where they affect each other. I believe this will enable a deep understanding of the underlying dynamics in the ecosystem that is essential before proceeding to the analysis part.
2.2.1. Entrepreneurs and Engineers

The cornerstone of the web startup ecosystem is the people who try to implement their ideas through new business ventures.

In most cases, those are people with technical skills that develop a web product or service based on their idea. Even though sooner or later they have to found and run a company, it is rather uncommon that they come from a managerial background. Some teams lack business skills, while others lack developers or illustrators. It is important that people with diverse skills come together to form a team in order to get an innovative project through (Hoegl, Holger, & Proserpio, 2007). Till recently, the majority of entrepreneurs had a technical background, but this is changing as the ecosystems grow and more people get involved.

In some cases, the founders of companies might have worked together before forming the startup. In other cases, they might be introduced to each other in networking event or during their work on the project. This has an effect on the course the startup will follow. Startups that start as spinoffs normally focus on a very specific task, while those that are formed by individuals with no or limited prior affiliations are more likely to explore new ideas (Beckman, 2006).

2.2.2. Investors

While it’s not the only part of the equation for the success of a startup, funding is crucial to startups and affects to a big extent the growth of the company.

Unlike large business finance, the high risk of startups is unbearable for banks and certain investment firms. The problem of raising capital is even bigger for web startups that are not profitable, lack tangible assets and as a consequence can’t rely on debt financing (Denis, 2004). As a result, startups need to seek financing in other ways, most usually by selling equity. As a startup proceeds through several stages and its business model becomes more concrete, different funding options are available (Davila, Foster, & Gupta, 2003).
The following diagram represents the size of capital different investors can offer to web startups over time. This is a general representation that may vary according to the growth of the company.

![Diagram of startup financing stages](image)

*Figure 1: Stages of startup financing*

The initial capital required for a startup is called seed capital. Seed capital, also known as seed money, is usually limited because the startup is still in a conceptual stage. Seed money is used for market research and product development until the company can start generating income.

At the beginning, a startup is funded by the founders’ own assets or by small investments made by their families and friends. While there is a high risk in this first stage, the size of the investment is bearable for individuals with no or little experience. The use of one’s own assets is also a way for entrepreneurs to signal their commitment to their startup (Conti, Thursby, & Rothaermel, 2011).

Another resource of seed capital is angel investment. Angel investors fill in the gap between family and friends and venture capital. They can provide startups with funds up to a few hundred thousand euros but they still have to deal with high risk. Since
they are investing their own capital and not pooled funds, they become extremely active partners of the companies they invest in.

Growing further requires that startups receive new rounds of financing. Venture capital (VC) firms can provide companies with bigger funds, again in return for equity. Studies have shown that VC contributes significantly to make companies more innovative (Kortum & Lerner, 2000) (Hellmann & Puri, 2000).

Unlike angel investors, VC firms do not invest their money but act as intermediaries between startups and funds raised from institutional investors, referred to as *limited partners*. Venture capitalists, the people who manage the funds, are referred to *general partners*.

Since there is a high failure rate for web startups, venture capitalists diversify their overall investment by splitting it into several smaller ones with the prospect that a minority of the companies will have such growth that will compensate for the losses of the rest.

Venture capitalists are interested in companies that have potentials for high growth. Venture capitalists do not only provide companies with money, but they also support them with their experience and coach them in their first stages (Davila, Foster, & Gupta, 2003). It’s common practice for example that they place their own people in key positions in the companies.

Unlike what happens in other industries, web startups are likely to receive venture capital before they launch their product. Most of the capital web startups receive is spent on customer acquisition. Furthermore, web services can spread rather quickly and that requires that a flexible and scalable IT infrastructure is built beforehand.

Venture capitalists are long-term investors, which means that they expect return from their investment after 5-10 years. Their goal is a profitable exit from the company and therefore they are not interested in running the company for a very long time. Venture capitalists typically hold the strongest rights regarding the choice and the timing of exit. However, good exit opportunities are crucial not only for investors but also for entrepreneurs because they have an effect on the innovation strategy of the company (Schwienbacher, 2008).
A successful exit for longtime investors is done through a liquidity event, normally by mergers and acquisitions or an initial public offering (IPO). The choice of the exit strategy is also of primary interest to the entrepreneur. For example, an exit through an IPO is a way for the entrepreneur to regain control from venture capitalists (Gilson & Black, 1998) and signal stability and dependability to customers (Maskimovic & Pichler, 2001).

During the last few years a new way of financing called crowdfunding has been developed. Crowdfunding is a collective effort by consumers who network and pool their money together in order to invest in and support efforts initiated by other people or organizations (Ordanini, Miceli, Pizzetti, & Parasuraman, 2011). Crowdfunding platforms that focus on web startup projects have been gaining lately a lot of attention from the media, especially after the signing of the JOBS Act in the USA which removed several restrictions on equity-based crowdfunding.

Most crowdfunding platforms operate online and they are an interesting alternative to traditional financing opportunities because in most cases they allow entrepreneurs to receive funding without the need to sell equity (Croudsourcing.org, 2012). Another advantage of crowdfunding is that it’s simplified and more standardized than contractual agreements with business angels, which makes it more appealing to inexperienced entrepreneurs. Due to the smaller capital one can raise, crowdfunding can be used primarily for projects in early stage startups.

An interesting observation is that most of the crowdfunding platforms are web startups themselves. The business model they introduced would never be implemented without the use of Internet. This is another case where entrepreneurs found an opportunity to transform the traditional way of financing of innovative projects. Up until now, it was up to specialized investors such as angel investors and venture capitalists to provide the required capital, but crowdfunding enabled the users to actively participate in this process.

2.2.3. Academic Institutions

The relation between Universities and innovation has been well documented in the academic literature over the years (Mowery & Sampat, 2006).
Probably the most famous case is the high-tech regional cluster of Silicon Valley in California. Silicon Valley, home to some of the world’s most famous web startups, had great support from Stanford University and its alumni during its early years (Adams, 2003). In return, startups that came out of the Universities around Silicon Valley and Boston’s Route 128 played a vital role in the development of the industry in the USA (Bania, Eberts, & Fogarty, 1993).

The Bayh-Dole Act was passed in the USA in 1980. The Bayh-Dole Act allowed universities to retain ownership through patents of inventions made under federally funded research. This Act, combined with a boom in certain research areas such as biomedical research, resulted in an increase in patenting and licensing by Universities (Mowery, Nelson, Sampat, & Ziedonis, 2001). While the initial purpose of the Act was to speed up the commercialization process and promote innovation, a side effect was the shift in university policies regarding intellectual property rights towards a more aggressive strategy.

Of course, the contribution of Universities to innovation is not limited to the USA. As a matter of fact, data support that in several countries the contribution of Universities to the national level of R&D is much higher than in the USA (OECD, 2011). The problem is that the universities in those countries often fail to commercialize their research. A first reason to that is that universities in the USA are highly autonomous and competitive, while in most countries they are owned by the state. Moreover, in contrast to the USA where professors and researchers are offered several incentives to commercialize their ideas, in Europe it is more likely that they are penalized and stigmatized (Goldfarb & Henrekson, 2003).

2.2.4. Communities

A common barrier that first time entrepreneurs face is the lack of certain competencies due to their inexperience. Luckily, web entrepreneurs are generally willing to share their past experiences and the knowledge they acquired over the years with newcomers in the web startup environment.

The formation of communities has several benefits. Networking contributes to the innovative capabilities of startups by exposing them to novel sources of ideas,
enabling fast access to resources and enhancing the transfer of knowledge (Powell & Grodal, 2006).

Apart from supporting knowledge sharing, web communities can be used as a mechanism to raise awareness around the actions of their members and achieve favorable treatment (Bimber, 1998). Communities can use media to their advantage and especially web communities are benefitted further by the rise of online social media.

The organization into communities is advantageous for investors as well; it makes it easier for them to search amongst several startups for new projects and companies to invest in. Historically, such technology hubs started from the USA but the last few years we see several new being formed in cities across Europe such as London, Berlin and Helsinki.

In order to minimize costs and facilitate knowledge sharing in a daily basis, entrepreneurs and developers of different web startups sometimes work together in common spaces. Co-working, as this practice is called, is an effort to create a community of cafe-like collaboration spaces for developers, writers and independents (Aguiton & Cardon, 2007).

Communities of web entrepreneurs are facilitated by the use of online social media but personal communication is also important. It’s common that co-working spaces organize events. Those events are used for networking purposes and for the education of the entrepreneurs. Private multinational companies sometimes support such events. Those events and gatherings are a great opportunity for startups to ask questions and gain insights on several topics. Getting feedback is crucial for startups, even when it contains a lot of criticism.

A specific kind of event that is particularly interesting and original is hackathons. Hackathons are contests during which people involved in software development, such as programmers and project managers, get together to pitch, program and present an early working prototype of a software application after 24 or 48 hours (Leckart, 2012). Some hackathons have a specific theme or specific sets of technologies that need to be use, while some others are broader. The aforementioned description falls perfectly within the interest of venture capitalists;
venture capitalists seek fresh ideas and new projects to invest in. Also, startups use hackathons as a mechanism to hire developers that have an entrepreneurial spirit.

2.2.5. Government

The most obvious way that a government can support startups is by financing them. The grant of funds is typically done in the form of subsidies and loans. Governments also have the power to support startups in raising equity finance by intervening in two ways: directly or indirectly (Manigart & Beuselinck, 2001). Directly means that the governments participate in venture capital funds or are actively involved in the companies. Some researchers have raised their concerns about this practice and the interference of the government in a sector where privately owned funds are traditionally more efficient (Florida & Smith, Keep the government out of venture capital, 1993). On the other hand, indirect support can be provided through a variety of measures.

First and foremost, governments set the ground for the existence of startup companies. The legal framework of a country and the types of companies one can found are of major importance. Flexible laws that minimize bureaucracy and increase efficiency is amongst the most common measures taken to support web entrepreneurship (The New York Academy of Sciences, 2010).

Government actions are implemented through regulations. The attraction of foreign skilled employees to transfer their knowledge and the ease of incorporation can boost entrepreneurial activity. Moreover, flexible labor laws make it easy to deal with the uncertainty of startups.

Taxation is another serious issue for countries with troubled economies. The case of Ireland proves that countries can attract significant amount of foreign direct investment that will drive innovation even during recession (Walsh, 2003).

Finally, governments can participate actively in building a healthy environment for web startups. The cases of London and Dublin are the more famous cases in Europe.
2.3. Cultural Differences Between the American and Other Ecosystems

When we talk about culture we focus on entrepreneurial culture, which is about the general attitude towards risk, uncertainty and failure. Entrepreneurs need to act as salespeople, they don’t only create the service but they also have to pitch it to investors and clients. American entrepreneurs are considered more aggressive while Europeans are more considerate.

Countries with fast growth offer more opportunities, while stable or declining economies tend to favor safe options.

The cultural differences are not limited to entrepreneurs (Woods, 2011). Investors behave as well differently across the world. The general consensus is that American investors forgive failure much easier than European investors. To a certain extend, failure is considered part of life and they appreciate the fact that the entrepreneur tried to implement his idea. In Europe however failure stigmatizes the entrepreneur.

Another issue that affects the culture is the size and state of the market. Europe faces the issue that it is more fragmented. Even though there is a common financial zone, it still isn’t entirely unified and moving to new markets requires extensive planning. The culture of customers differs significantly and needs to be taken into consideration.
3. Methodology

In the previous chapter a review of the existing literature around the topic analyzed has been presented. In this chapter the methodology followed during the research for this thesis will be discussed, in order for the reader to be able to evaluate the content.

3.1. Philosophical Position

The stance a researcher holds towards epistemology and ontology has clear implications on the research process and the results and conclusions. Epistemology is the branch of philosophy concerned with what constitutes acceptable knowledge and what is there that we can know (Greco, 1998). On the other hand, ontology is concerned with the nature of reality and how reality is viewed (Saunders, Lewis, & Thornhill, 2009). Thus, it is necessary to clarify my position during this research in order for the readers to evaluate the research strategy followed.

For the purposes of my thesis I adopted the philosophical stance of interpretivism. It is my belief that the nature of the topic I deal with in my research requires to do so. The fundamental differences in many aspects of entrepreneurial activity across countries with different economies limit the generalizability of research in my field of focus. Unlike positivism, which emphasizes the use of an objective scientific method through which we observe sets of casual laws that can be used to predict general patterns of human behavior (Esterberg, 2002), interpretivism supports that multiple realities exist and that they differ across time and place. Consequently, the whole needs to be examined in order to gain understanding of a phenomenon (Guba & Lincoln, 1994). This also includes taking into consideration different actor’s perspectives, researcher involvement and contextual understanding and interpretation of data (Carson, Gilmore, Perry, & Gronhaug, 2001).
My goal and the main challenge I faced was to understand the world of web startup communities from the point of view of the different people involved. In that sense, an interpretive perspective was the most appropriate for my research.

3.2. Case Choice

The choice of a case study has been made to enable a broader picture of the issues web startups face in countries with troubled economies compared to those located in the USA, that have been analyzed to a much bigger extent.

The selection of Greece as a case was made primarily due to the challenging times the country is going through. The European financial crisis has affected severely the Greek economy since 2008. Moreover, at the time of writing of this thesis, the country has gone twice on elections and for the first time since 1990 has a coalition government. It is clear that Greece needs to change and it will be interesting to see whether this will benefit web entrepreneurship.

Furthermore, my Greek nationality played a major role. The knowledge of the native language and the local culture are prerequisites to perform research on a topic with limited public data. My prior work experience in the software industry in Greece and my participation in both private and public projects enabled me to discuss with the interviewees both organizational and technical topics.

Finally, the focus in one country as a single case study offers the opportunity for this case to be examined thoroughly.

3.3. Target Group

This study is conducted as part of the Master’s Degree Program at Copenhagen Business School and as a result is written with the University’s required formalities in mind. However, my intention is that others with an interest in web entrepreneurship
will find this thesis useful and I have decided to make it publicly available to the Greek web startup community. This thesis should be of primary interest to:

- First-time entrepreneurs who lack experience and search for information to understand the Greek market
- Policy makers who try to resolve the issues faced by the players in the web startup ecosystem and search for fresh ideas
- Venture Capitalists who are interested in investing in Greek web companies
- Students who wish to start their own web startups and/or research further some of the ideas presented

3.4. Web Startup Ecosystem Framework

In order to analyze the Greek web startup ecosystem, a framework that can successfully incorporate the participating parties and the formal or informal ties between them is necessary.

In the following paragraphs, some of the frameworks used in other cases as well as a new framework that was developed for this thesis will be presented.

3.4.1. Existing Approaches

Researchers and entrepreneurs have developed frameworks for the creation and operation of web startups in an effort to model the forces that participate in order for a startup to succeed.

A framework that has been recently getting a lot of attention from web entrepreneurs for the operation of startups is the Lean Startup methodology as described by Eric Ries (2011). The main idea is that a startup should put all efforts on the product and launch quickly with a Minimum Viable Product (MVP) that will be redefined as they proceed according to their research and market reactions. Due to the nature of web services that can be easily altered even after launching, this methodology can be easily adopted by web startups. Ries describes a framework that startups can use,
based on a Build-Measure-Learn Feedback loop, three steps that continuously happen in the company. He argues that it is important for startups to try small experiments that may lead to success while taking small risks.

Another framework, which can be supplementary to the above methodology, is *bootstrapping*. Entrepreneurs use bootstrapping in order to start their business without borrowing money. Their primary focus is to build a sustainable model before seeking growth.

Compared to frameworks that explain the operations and growth of web companies, mapping a web startup ecosystem is a lot more complex. It is also not in the direct interest of entrepreneurs and investors because their focus is on specific projects and ideas. But a framework is relevant whatsoever to policy makers and newcomers from markets with different structures. As a result, most such efforts are based on the specificities of each country and are not frameworks that can be applied in a variety of environments.

In his recent book on startup communities and the development of entrepreneurial ecosystems, Brad Feld mentions three frameworks that have been used in the past to explain how location relates to entrepreneurship (2012).

The first is based on *external or agglomeration economies*. According to this, companies that are located closely to others benefit by the external economies of scale since they can share resources in order to lower their costs. Moreover, on the same time co-location creates a valuable knowledge pool for startups by the collection of talent in a certain area. Each startup supports this talent pool and a network effect is apparent.

The second framework, *horizontal networks*, is also related to network effects, but not due to the economic implications. AnnaLee Saxenian (1996), by examining the cases of Silicon Valley and Route 128, came to the result that the information sharing culture developed in the Silicon Valley community was the main reason for its dominance. The cooperation between companies and the openness of the individuals played a major role. This framework focuses more on the sociological reasons behind the success of the ecosystems.
Finally, the third framework focuses on the people that contribute to the ecosystem, the creative class. The creative class includes the entrepreneurs, engineers and other individuals who bring value by creating meaningful new forms. Richard Florida (2002) argues that there is a strong tie between the creative class and innovation and that the culture developed by the creative class creates an incentive for those people to stay connected. Again, this is a different example of network effects.

However, Feld found those frameworks incomplete because they fail to explain how an ecosystem is created and they only analyze them after their establishment. As a result, he developed a new framework, the Boulder Thesis, which provides the basis for his book. This framework has four components. Firstly, entrepreneurs must lead the community otherwise it won’t be sustainable. Secondly, they need to have long-term commitment because of investment and industry cycles. Thirdly, the community must be inclusive and anyone who wants to participate should be able to; this is where the network effects come into play. Finally, through regular activities the community should engage the entire entrepreneurial stack.

Gary Gannon recently initiated another endeavor in order to explain the interconnections in a startup ecosystem (2012) following a different approach. The result is an even more generic framework, the Startup Ecosystem Planning Framework, which is still in a draft version as he seeks information and contributions from more researchers. This framework provides a great starting point as Gannon seeks to find a systematic way to analyze the interconnections between the players involved in the ecosystem. He does so by explaining the role of the different players.

Finally, Ilias Simos (2012) created a model to evaluate the innovation and growth potential of the Silicon Roundabout, an ecosystem of web startups that emerged in 2008 in East London. His approach is based on the research conducted by Boschma (2005) and Sternberg (2007), who proposed that the formal and informal ties between the players in a Regional Innovation System are central to its development.
3.4.2. Introduction of a New Framework

Using Gannon’s framework as my main reference and the concepts described in Feld’s book as supplementary insights, I developed a framework that I believe fits the web startup ecosystems in troubled economies better than the existing ones. My goal was to introduce a framework that on one hand can effectively describe the Greek ecosystem but on the other hand wouldn’t be specifically designed for Greece and could be applied in other countries that face similar issues. As a result, the main specificities observed during my research on the Greek actors were ignored during the formation of the framework, but they will be discussed in the following paragraphs of this thesis.

Compared to Gannon’s approach, some parties have been excluded, such as NGOs and philanthropic organizations, since they are usually inactive in smaller web ecosystems.

I introduce the concept of the web startup community as an organization of entrepreneurs and developers. Sometimes, there are a few communities that are officially formed, but the vast majority are informal and without specific members. Communities are collectives of people with common interests that help and support each other by sharing their knowledge and experiences. They should not be misinterpreted as clusters. Unlike clusters, which can be defined as collections of industries with high levels of co-location (Delgado, Porter, & Scott, 2010), communities may have ties in more than one region. For example, we might be dealing with communities formed around the use of a common web technology. As a result, co-working spaces and web startup events act as meeting points for those communities.

The Greek ecosystem is in its founding stage and strong communities are required for it to grow further. Thus, I consider entrepreneurs as the cornerstone of the whole web ecosystem. They are the ones building the web products and services and the role of the other members of the ecosystem is to support them with their actions and measures. This idea is consistent with all of the aforementioned frameworks and especially with the first component of Feld’s framework about entrepreneurs leading their ecosystem. It is important to note that entrepreneurs can and should participate
in more than one community in order to maximize the network effects for knowledge sharing.

Other parties interact with those communities. I have decided to present them as separate entities. This enables us to easily separate the responsibilities of every actor in the ecosystem and break complex problems into smaller ones in order to assign them to the corresponding part.

In the previous chapter we have examined the role of governments, educational organizations and investors in the web startup ecosystems. The role of the customers, however, has not been analyzed mainly due to their dynamic nature. Customers of web services are not limited to specific geographical areas or countries but may be located anywhere. Even in cases in which the service appears to be developed specifically for one country, e.g. translated to the native language, the main platform can always be adjusted to new markets. This is essential to happen for companies operating in countries with troubled economies; it is the only way to achieve sustainable growth that will eventually lead to profitability. A second fact that explains the dynamic nature of the customers is that web startups have to reevaluate and adjust their business models over time. Startups use the feedback from early adopters to identify the key features that customers use and ask for in their products. Web traffic, analytics and forums provide insights that guide entrepreneurs in their decisions.

Simos (2012) developed a framework to measure the effect of different elements on entrepreneurship and innovation in London’s Silicon Roundabout. Accordingly, through my research I have reached the conclusion that not all parties have the same importance for the success of a web startup ecosystem. Also, depending on the ecosystem. Certain parties might be less active and have a limited role. Communities and investors have the strongest effect on the ecosystem; those are two interdependent entities that have the most interactions within the ecosystem. The government plays a major role by developing the legal framework under which startups operate. In many cases, however, this is the only point that requires synergy with the rest of the ecosystem. Educational organizations and customers are the least important parties, for the reasons described earlier.
The following diagram is a schematic representation of the framework presented above.

![Diagram of the web startup ecosystem framework](image)

*Figure 2: Framework for web startup ecosystems*

3.5. Qualitative Analysis

While web startups and related events have lately gained a lot of publicity in the Greek media, web entrepreneurship, in the form of startups as defined earlier, remains a relatively new phenomenon of the past 5 years.

I believe that the approach I followed enabled me to capture the essence of web entrepreneurial activity in Greece. Discussing with entrepreneurs, investors and policy makers was a prerequisite to go in depth with a complex theme such as web startups. Therefore, qualitative analysis is commonly used in exploratory studies such as this one (Blumberg, Cooper, & Schindler, 2005).

Furthermore, the significant differences across countries and markets limit the appropriateness of the available quantitative data. While some patterns are definitely significant and are taken into consideration. However, the inappropriateness of the available quantitative data combined with the transitional phase the Greek economy
is going through mean that a study based primarily on these data would be based on weak reasoning.

As a result, the research for this thesis has been conducted using qualitative analysis.

3.6. Data Collection

While this thesis relies primarily on qualitative data for the reasons described above, quantitative data are also being implied. The analysis is based on the combination of primary and secondary data.

The primary data has been collected mainly through six personal interviews I conducted. All interviewees have firsthand experience with startups and provided valuable inputs. Another source was my participation in the Greek ecosystem. By attending web startup community gatherings, participating in online discussions and watching webcasts of events organized in Greece I gained even more insights in the Greek web startup ecosystem.

The secondary data used is a collection of archival data that include quantitative data. This includes several reports and statistics that not only describe the Greek environment but also enable us to compare it with other countries’ environments. Due to the dynamic nature of web startup ecosystems, I limited my research to reports that were published recently and remain relevant today.

In the following paragraphs the data analyzed will be presented.

3.6.1. Interviews

In order to gain a better understanding of the Greek web startup environment, I interviewed six professionals from Greece. My aim was to discuss with people that would represent different perspectives on the same issue. Therefore, I spoke with people that have experience as entrepreneurs, investors, mentors and regulators. Still, they were all questioned not only on their field of expertise but also on the
overall state of the Greek web ecosystem. Finally, they were all asked to propose ideas and actions to improve the ecosystem at any level.

I chose four of my interviewees at an early stage of my research. I already knew their background and working experience with startups through either our existing friendly relations or their leading presence in the web startup communities. During the collection of data on the web communities in Greece and the events on web entrepreneurship, I found out about CoLab and asked to interview Mr. Kapetanakis. Finally, I was introduced to Mr. Pierrakakis through Mr. Kalavros when I asked him to refer any persons he believed could contribute to my research.

All interviews were conducted under rather informal conditions and were semi-structured. At the beginning of each interview, all interviewees were informed that the interview was part of the research for my thesis. There was a basic framework of topics that would be discussed and those topics were clarified to the interviewees. However, the interviewees could elaborate freely and offer new perspectives on the topic according to their preferences (Corbetta, 2003). This approach was chosen as the most suitable for this case due to the broad nature of the central theme. It also allowed us to discuss in depth specific topics according to what the interviewees believed was more important. When adopting an interpretivist epistemology, conducting semi-structured interviews is a preferable method because the researcher can easily understand the actual meaning of the various phenomena the respondents describe (Saunders, Lewis, & Thornhill, 2009).

Four of the interviews were conducted in person, one over Skype and one over the phone.

In the following paragraphs a short profile for each interviewee is provided.

**Fotis Draganidis**

Fotis Draganidis is General Manager at *Microsoft Innovation Center (MIC)* in Greece. Since its establishment in 2008, MIC aims to support students and entrepreneurs in developing innovative software solutions and to drive competitiveness and entrepreneurship in Greece. To achieve those goals, MIC invests not only in setting
the foundations for the emergence of innovative ideas, but also in implementing and promoting those ideas. MIC works closely with startups, Venture Capital firms, web communities, academia and Microsoft’s partner network.

Mr. Draganidis also holds the Education Lead position at Microsoft. He works closely with the Ministry of Education, Universities and other educational organizations to facilitate ICT adoption and innovative educational solutions.

**Dimitris Kalavros-Gousiou**

Dimitris Kalavros is a young entrepreneur and one of the most active persons in Greece in the web startup community, holding several diverse positions. In early 2006 he founded away.gr, an online media about entrepreneurship, innovation and technology, covering news about startups and analyzing both the global and the Greek technology scene. He is also a Contributing Editor at TechCrunch Europe, the most popular European blog about technology startups, covering news about Greece.

While being a web entrepreneur himself, Mr. Kalavros also serves as a Referrer at HackFwd, a German seed investment firm that invests in European web startups. His role is to monitor and select projects and companies from Greece and Southeast Europe.

Last but not least, Mr. Kalavros is the Founder and Curator of TEDxAthens, a conference held twice a year with inspirational innovators and speakers in Athens. TEDxAthens organizes several smaller side events and activities. The topic of TEDxAthensAcademy event held in June 2012 was the web startup ecosystem and the goal was to provide guidance and advice to new entrepreneurs.

**Spiros Kapetanakis**

Spiros Kapetanakis is the Co-Founder of CoLab Workspace, the first co-working space in Athens. While there are now several other co-working spaces available, what differentiates CoLab from its competitors is that it’s designed and operating with web entrepreneurship and startups in mind. CoLab also hosts, on a regular basis
events on entrepreneurship and programming in cooperation with other Greek and foreign organizations and companies. On July 2\textsuperscript{nd} 2012, CoLab launched a new co-working space in Heraklion at Crete Island.

Mr. Kapetanakis has a long experience on web projects through his participation in several companies. As a result, he is also a member of the advisory board of the \textit{Hellenic Start-up Association}. This position enabled him to interact with a variety of web startups and support them with his knowledge.

\textbf{Kely Pesketzi}

Kely Pesketzi is a young associate at KGDI, a leading Greek business law firm. She has a Master in corporate taxation from the \textit{Sorbonne University (Paris I)} and was recruited by KGDI's Finance department to work with the Corporate and Banking team of the firm. In the field of corporate law, she provides advice to foreign investors who wish to establish operations in Greece and handles the day-to-day operations and compliance requirements of listed and non-listed companies. As regards banking law, she has been involved both in corporate and project financing transactions and regulatory compliance of Greek credit institutions, thus having a practical view of the times' challenges with respect to financial markets.

KGDI is a leading law firm established in 1933 and ranking amongst top tier Greek firms in the fields of Banking and Finance, as per internationally acknowledged ranking organizations. Members of the firm have often been involved with drafting of new legislation, such as the 2007 reform of the law on S.A. companies.

\textbf{Kyriakos Pierrakakis}

Kyriakos Pierrakakis is a Doctoral Candidate at the \textit{University of Oxford} and holds a Master in Technology and Policy from the Engineering Systems Division of \textit{MIT} and a Master in Public Policy from the John F. Kennedy School of Government of \textit{Harvard University}.

Mr. Pierrakakis has served as an advisor to the \textit{Minister of Development, Competitiveness and Shipping}. He was also Chairman of \textit{Institute for Youth} of the
Greek Ministry of Education. Through those positions he had active participation in planning and executing policy changes and developing the startup ecosystem in Greece.

Finally, he has worked at MIT’s Center for Energy and Environmental Policy Research and is in the advisory board of several startups.

Konstantinos Sideris

Konstantinos Sideris is a PhD student at the University of California, Los Angeles in Computer Science, Graphics & Vision. While he was still studying in the National and Technical University of Athens, Mr. Sideris was the team leader and lead programmer of his University’s team that won the Greek finals of the 2009 Microsoft Innovation Cup competition, presenting an automatic disease diagnosis proposal.

Mr. Sideris is the Co-Founder of a recently launched web startup in the USA, vuPad. His company is developing an augmented reality application and is currently at the first stages of funding. His experience with web startups in California and the deep knowledge of the Greek scene allow him to have great insights for comparison of the two ecosystems.

3.6.2. Personal Observations

A second source of qualitative data that I used was the systematic observation of the Greek web startup ecosystem. Being around web entrepreneurs and sharing some of their experiences, I managed to provide a better analysis of the interviewees’ inputs and the archival data collected.

I believe that this was a unique opportunity to enrich my knowledge on how the ecosystem fundamentally works and what the underlying dynamics are. Since the beginning, the role I chose was that of an observer as participant (Saunders, Lewis, & Thornhill, 2009). I was a spectator and did not perform exactly the same activities as those who are actively involved in web startups.
During my research I attended some events for web startups in Greece, most notably the *TechCrunch Athens Meetup* in January 2013, which was organized in collaboration with *Open Coffee*. I also watched numerous events online via either live streaming or

However, since I don’t reside in Greece my attendance in person was limited and I had to find alternative ways to communicate with the members of the Greek ecosystem. I was updated on the latest news through numerous Greek and international blogs covering startup news, but the most useful tool at the end was Twitter. Using Twitter, I could not only follow specific startups and organizations, but also get in direct touch with the people that constitute the Greek web communities.

I strongly believe that this personal involvement was fundamental in conducting my research. Personal experiences and interaction with Greek entrepreneurs allowed me to fill in the gaps from the other data I collected.

### 3.6.3. Archival Data

A study that is based only on the subjective views of interviewees would be of limited value. Even though they all share deep knowledge of the subject, they are still biased due to their position and past experiences.

In order to be able to evaluate the opinions of the interviewees, further research was conducted with the support of archival data.

First, with the assistance of Ms. Pesketzi we went through the legal framework governing the creation and operation of companies. Even though laws are not specifically introduced for web startups, her experience on the subject enabled us to distinguish what is relevant for them. This evaluation happened over a long period of time that Ms. Pesketzi and I exchanged emails and should not be mistaken for the interview we had. On the contrary, the interview was the reason for this prolonged communication.

Statistical data by the Hellenic Statistical Authority (EL.STAT.) and Eurostat have been used and are presented in some parts of this thesis.
Microsoft Innovation Center in Greece issued the *Greek Innovation Report* in 2010, a report that analyzes the progress of innovation in Greece relative to other European countries (2010). This report combines data from several resources. Primary data are used from the *European Innovation Scoreboard (EIS)*, an initiative of the European Commission Enterprise Directorate General for tracking and benchmarking the relative innovation performance of EU Member States. Data from *Innobarometer, Eurobarometer* and the *Global Entrepreneurship Monitor (GEM)* have also been used to supplement those of EIS. Finally, startups, general secretaries and presidents of chambers of commerce filled in questionnaires. Since this report was issued in 2010, I also examined the updated data of its resources, following though the same approach and framework as in Microsoft’s report.

The report *Entrepreneurship in Greece 2011-2012* was issued in February 2013 by the Foundation For Economic & Industrial Research (IOBE), which participates in GEM. The aim of this report is to evaluate the changes in entrepreneurship in Greece due to the financial crisis.

In order to assess the publicity levels of web entrepreneurship in Greece, a study by BaaS conducted from November 2011 till March 2012 was taken into consideration (2012). The research was conducted by measuring the appearance of certain terms related to entrepreneurship and startups on several social media platforms.

The Startup Genome in November 2012 published a report that enables direct comparison between the Greek web startup ecosystem and other ecosystems abroad. The *Startup Ecosystem Report 2012 (Part One)* presents statistics and findings regarding the top 20 startup ecosystem worldwide based on the data gathered by the Startup Genome. While the ranking of the ecosystems might be subject to criticism due to lack of data in certain areas that were not included, the analysis provided in those 20 ecosystems is well documented and provides practical insights nonetheless.

Finally, another report used was the *Yaroslavl Roadmap 10-15-20* by the New York Academy of Science (2010). This study summarizes the innovation policy of five countries (Israel, Finland, Taiwan, China, India and the USA) and provides 15
specific recommendations for the implementation of an innovation strategy in Russia till 2020.

Most of the aforementioned studies might not be specific to web startups, but due to the close relation between web startups, entrepreneurship and innovation they provide us with useful insights. They also helped me understand how other comparable ecosystems evolved over time.
4. Findings and Analysis

In this chapter the results of the research are presented. Following the methodology described above, the opinions of the interviewees are presented and supported with other data.

The findings are separated in sections based on the topics that were mostly brought up by the interviewees.

4.1. The Greek Mentality around Entrepreneurship

Greeks hold a long tradition on entrepreneurship. First of all, many are self-employed and work in agriculture. Second, tourism is a big part of the Greek economy and many people found the opportunity to offer their services in that industry. This led to the continuous use of established ideas over and over again.

Furthermore, Greeks show a strong preference towards self-employment, mostly because they feel it’s a way to self-completion and can provide a higher income (Eurobarometer, 2010). Greeks are very confident about their managerial skills, and even though this might be baffling most people, for those familiar with the Greek mentality it’s easily understandable.

This kind of entrepreneurship is not a good match for web startups. Web startups require innovative solutions that are based on revolutionary and scalable business models. Greeks are used to think locally and SMEs in Greece rarely made business abroad. With web services expanding globally in a fast pace, making business abroad is not only an option but also a necessity. Unfortunately most Greek entrepreneurs face difficulties in doing so.

Entrepreneurship can be distinguished in two different kinds: necessity and opportunity entrepreneurship. Opportunity entrepreneurs are the individuals who voluntarily start their own business when they identify a gap in the market. On the other hand, necessity entrepreneurs are forced to self-employment after being fired.
Mr. Draganidis pointed out that, even though Greece has mostly opportunity entrepreneurs, the government needs to set a strategy to support necessity entrepreneurs. Greece already has the highest percentage of necessity entrepreneurs in Europe (MIC Greece, 2010). Unemployment has reached 26.4% in December 2012 which means that 1.3 million people are out of work. In comparison, the same figure three years earlier was 10.5%. Young unemployment for people 15-24 was 57.4% and for people 25-34, who are the most probable to participate in startups, 34% (EL.STAT., 2012). The rise of unemployment is caused by the continuous waves of dismissals and it’s important to provide incentives for the creation of startups. This could be done for example in the form of subsidies for recently redundant personnel. Career orientation seminars are another option. There are many experienced business people available and their knowledge can definitely be beneficiary to first time entrepreneurs who possess only technical skills.

Mr. Kalavros discussed the role of the media on educating Greeks around web entrepreneurship. He is concerned that the media focus too much on the success stories. For example, during the BaaS research the most references of startups were counted on March 3, 2012 when Daily Secret announced it would get a new round of financing of $1.85 million (BaaS, 2012). Mr. Kalavros fears that this approach oversimplifies the commitment and effort of entrepreneurs and presents a faulty image. Greeks have connected startups with the terms achievement, money, social and pleasure (BaaS, 2012). Terms such as hardworking, insecurity and commitment are missing. It is extremely important to present web entrepreneurship correctly to first comers in the scene. This way they will be better prepared to deal with unforeseen incidents.

A big issue is that Greeks, like the rest of the European citizens, are hesitant towards the notion of failure and thus cannot easily handle the risk involved in web businesses. It takes a whole new mindset to understand that failure is only part of life and should be seen as experience instead of inability.
4.2. Community

The first Open Coffee meeting in Athens is considered by most people as the birth of the Greek web startup community. It was the first attempt for an informal meeting of the people located in Greece who were interested in web entrepreneurship; programmers, bloggers, marketers, venture capitalists and journalists came together. This was back in September 2007.

Five years later many things have changed but Open Coffee is still active. It doesn’t take place any more in coffee shops since it has grown impressively. It has also expanded in other cities such as Thessaloniki, Volos and Patra.

Open Coffee’s main contribution was the inspiration it provided to the individuals that attended the events. It also allowed them to meet people with similar interest and sometimes cooperate. For example, Mr. Kapetanakis met his partner in one event and while they were discussing ways to bring those informal meeting to their everyday routines, the concept of CoLab was conceived.

Coworking spaces are booming in Greece. CoLab has seen impressive growth in just less than two years. The company initially launched with a space of 100 m$^2$ in November 2010 and by the summer of 2011 it has already moved to 400 m$^2$. CoLab rents space to individuals and companies and because of the long waiting list the founders are considering moving again to a new building, doubling the available space.

Other available Coworking spaces in Greece include: Loft2Work, 123p, Synergy Project and Thermi Link (Thessaloniki). There are also ongoing discussion for the establishment of new spaces in more cities, including Volos and Patra.

A common characteristic is that those places act as incubators to a certain extent. Even though there is no specific training, Mr. Kapetanakis argues that the atmosphere of those places and the continuous event organization offer their clients an environment that is difficult to find elsewhere.

In terms of events, it seems that there is always something going on in Athens. During the time of this research, I noticed numerous events on a weekly basis. I was
also impressed by the quality of those events, with highly respected guest speakers from the global web community.

Apart from the smaller independent events, the main events that got more publicity in the media were: TEDxAthens, Startup Weekend, Ignite Athens, Startup Live and Entrepreneur Week Greece.

However, most events were seminars with a very specific orientation. They had the form of training and presentations. The Greek community needs to support developers in more creative and engaging ways, such as hackathons. The members of the community need to become active participants and not just passive audience.

In order to grow further, the Greek ecosystem needs its heroes. It needs leaders and role models; entrepreneurs that had global success and will not only share their experiences but will also inspire others. Greece is about to create its first public heroes, with the popularity of certain individuals rising. I expect this to happen during 2013 as the first financing cycles of Greek funding companies come to an end and some entrepreneurs have already expanded their businesses abroad.

The ecosystem is still small and I was impressed to find out that everyone knows anyone. I was also excited by the fact that most people have met in person at some point. My main concern was whether the community remained static and it’s always the same people that follow the events. But all the interviewees reassured me that there are always new faces showing up.

The expansion of the communities introduces a new hazard. Subgroups are slowly emerging and we are reaching a point where communication amongst those groups is becoming more difficult. I noticed that there were several similar events organized in a short period of time and as a result there was some competition for the attraction of attendees. However, all my respondents reassured me that this has not become a big issue yet.

A point where Greeks need to improve is on the cooperation with ecosystems abroad. Mr. Sideris believes that the Greek ecosystem has yet to develop strong ties with foreign communities. Bridging with them will be beneficial in numerous ways; from the execution of foreign business models to the increase of information exchange, this can only be a step ahead. Moreover, the BaaS study shows that
companies that moved to foreign markets brought in significantly more visitors to articles on Greek startups (2012).

4.3. Education

Greece currently has approximately 100000 students of Science, Technology, Engineering and Mathematics fields (STEM) in 150 departments in Universities and Technological Institutes.

Still, Greece scores lower that the EU average in almost all categories about academic performance in the Summary Innovation Index (MIC Greece, 2010). Greece falls short in PhD and University graduates.

Another issue that is not easily identifiable is that Greek institutions focus more on research and have a very weak connection to the job market. Mr. Draganidis, who has been cooperating closely with the academic community, identifies that this is changing. Students are troubled about their future and ask for more practical skills.

Education is not only knowledge of technical skills. Relative to what was mentioned before, it’s also about the mindset of entrepreneurs. Unfortunately, apart from a few exceptions, most academic departments in Greece have done nothing to inspire entrepreneurship. There is a lack of academic programs that promote entrepreneurship.

As a result, this falls into the interest of private companies. Mr. Pierrakakis supported that the government cannot support entrepreneurs directly, but there are actions taken to bring them in contact with companies and organizations that can become their mentors. Microsoft Innovation Center for instance is supporting around 150 startups with training on business operations and technologies. Furthermore, a few startups are selected for more intensive incubation.

It is important to note that current incubators and accelerators ask for very small return if any. Their goal is to expand the community and they focus more on the long-term returns. This is exactly why the government can’t support them in those times.
4.4. Investments

Greece is a small market and does not offer any substantial VC funding for web startups. I am not aware of any Greek business angels, even though there is increased activity in seed funding by investing one’s own funds.

Amongst the most famous funds are: Alpha Ventures, Attica Ventures, Aims Management, IBG Management, Thermi Ventures and Piraeus Capital Management. One can easily realize that Greek banks set up most of those funds. They are not focusing on web technologies but are more experienced in other industries. Thus, they are not the ideal option for Greek entrepreneurs because they lack the skills to support them in other ways apart from funding.

Another available option from Greece is OpenFund. OpenFund is a seed fund that started out of the same people that initiated the Open Coffee meetings. Its main difference is that it only accepts web startups and offers much closer mentoring. However, the total size of the fund is much smaller but this is not necessarily bad due to the smaller investment size required for web projects. So far, OpenFund has made five calls for proposals.

Two more Greek funds that work specifically with web startups and technology firms are PJ Tech Catalyst and Odyssey Venture Partners. They are both recently established and are currently seeking for investment opportunities.

Greek startups also seek funding abroad. The limited options in Greece force entrepreneurs to seek opportunities elsewhere. Several companies have accepted foreign capital so far, but most of them had to register abroad as well. This allows investors to work closely with the management team and also acts as a control mechanism. It is another way to avoid Greek bureaucracy. Usually Greek entrepreneurs try the American market for three reasons. First, there are more options available and it’s faster and easier to pitch the idea to several investors. Second, they are more experienced and will provide better guidance and insights to a much bigger market. And third, competition for European funds is much harsher.

Equity financing is not the only available option. Investment options are available by public funds but they are provided in most cases in the form loans with beneficiary
The two biggest active funds are the National Fund for Entrepreneurship and Development (ETEAN) and the Jeremie Investment Fund.

When compared to the American job market, Greece offers a significant advantage. Programmers are intrigued by the idea of working for a big multinational company with a startup spirit such as Google, Facebook and Twitter. There is an ongoing talent war in the Silicon Valley where for the first time the roles have been inversed: companies are going after programmers (Martin, 2012). The absence of R&D departments of big technology multinationals in Greece is definitely an issue for the working force, but on the same time enables startups reach talented employees much easier.

Moreover, salaries in Greece are much smaller than in the USA. Regarding big projects, Greece overcompensates the lack of skills with the cheaper cost of labor. Comparing the average salaries of an experienced programmer we can say that in Greece it's four times smaller than in the USA. Still, Greece cannot compete with countries such Ukraine and Poland and Russia. Those countries have been a popular destination for the outsourcing of software projects the last decade and over the years they have gained significant advantage over other European countries (The New York Academy of Sciences, 2010). Furthermore, salaries are much lower than in Greece.

The importance of an efficient exit strategy was analyzed in the literature review. Due to the lack of venture capitalists and the troubled economy, IPOs are not an option in the Greek Stock market. This might seem as a drawback at first, but the small size of the Greek market leads to lower valuations by investors that can lead to bigger profits in the long term. Thus, seed investors should primarily seek for an exit in new rounds of funding from abroad. Another option is the acquisition of the company by big multinationals. This tactic was followed for example by BlindType in 2010.

Unfortunately, it's still early to evaluate the exit strategies followed by investors so far because the first wave of Greek web startups has not grown yet significantly.

Currently, Greek entrepreneurs who seek venture capital should focus primarily abroad. Taking into consideration the increased number of mentoring and incubation solution available to startups in Greece, I believe that the lack of Greek funds is not a
big drawback. Entrepreneurs have opportunities to develop their ideas and services before moving to a bigger scale abroad.

4.5. Public Policy

Greece is infamous about its bureaucracy. Greece has been continuously convicted by the European Court for the huge delays in the disposal of legal cases. It is extremely time consuming to deal with the public services. This has also brought Greece to the top of the most corrupted European countries.

The Greek Government has introduced a number of measures to deal with this issue but it takes time for them to take full effect. Greece is under huge pressure by its partners and is forced to pass new legislation quickly. This might cause problems in the future with overlapping and/or unclear articles.

Mr. Pierrakakis supported that the biggest challenge for the Greek government is the update of bankruptcy law. Today it is extremely complicated and it needs to be simplified in order to enable entrepreneurs to start over after a failure. They fear however that entrepreneurs might misuse a more relaxed bankruptcy law, due to the general insecurity of the economy.

In the following chapter the available options for the establishment of a company in Greece will be described and compared.

4.5.1. Corporate Forms

In order to establish a new company in Greece, entrepreneurs can choose amongst five corporate forms:

- **Anonymos Etairia** – Corporation
- **Etairia Periorismenis Eftinis** – Limited-liability Company
- **Ommorothymi Etairia** – General Partnership
- **Eterorrythmi Etairia** – Limited Partnership
- **Idiotiki Kefalaiouxiki Etairia** – Private Company
Anonymos Etairia (AE) is the corporate form that foreign companies choose when they establish a company in Greece. This formation is covered by Codified Law 2190/1920, which has been amended repeatedly and since July 2007 the creation of single-shareholder corporations is allowed. The minimum required capital to form an AE is €60000.

AEs are required to pay dividends of at least 35% of net annual profits, unless the general assembly decides otherwise by a majority of 65% of the total paid capital of the AE. The dividend amount not to be distributed would then be paid into a reserve account and must be capitalized within four years through the issuance and distribution of free shares to shareholders. However, a majority of 70% of the total paid capital of the AE may take a different decision and avoid both rules above.

Etairia Periorismenis Efthinis (EPE) is governed by Law 3190/1955 and is considered a commercial company. Compared to AE it requires a much lower minimum capital of €4500. EPE does not declare dividends but instead it is taxed on its entire net profit at the company level, no matter whether the net profit is distributed or retained. Moreover, EPEs may not issue bonds.

Idiotiki Kefalaiouxiki Etairia (IKE) was introduced in April 2012 with the enactment of Law 4072/2012 in an effort by the Ministry of Development to increase entrepreneurship and make Greek companies more competitive abroad. Even though IKE is generally similar to EPE, it was introduced as a new form because issues with the transition of old companies would arise. IKE offers three distinct characteristics that make it more attractive for SMEs. First, the minimum required capital is only €1, similarly to corporate forms offered by other European countries. Second, IKE identifies every kind of contribution and not only capital or shares. Contribution can also be non-capital and guarantees and as a result even working contribution is acceptable. Third, IKE are more flexible because there are several ways offered for one to become part of the company. It’s also easier and faster to change the shareholding structure.

The main difference of Omorrythmi Etairia and Eterorrythmi Etairia to the forms mentioned before is that all partners may be held liable without limits, even to the
extent of their personal property. An exception is made for Eterorrythmi Etairia, where one or more partners may be limited in their liabilities to the extent of their paid-in capital. However, they lose their limited-liability status if they join the management, if their names appear in the title of the firm or if they represent it in business transactions. In line with the European Union’s 12th company-law directive, an individual may form a single-partner Eterorrythmi Etairia, but may not participate in more than one company of this type.

When asked about which corporate form Greek web entrepreneurs usually select, Mr. Pierrakakis replied that there was not a specific preference. However, the high minimum required capital for AE make it less attractive. He also noted that to his opinion IKE is the one that fits their needs the best, but since it’s a rather new form we can’t know yet whether it’s already the preferred one.

4.5.2. One-Stop Shops

Another action taken to make Greek more business friendly to new entrepreneurs was the introduction of One-Stop Shops in June 2010 (Law 3853/2010). However, due to delays in the migration of existing data, the first One-Stop Shops started operating in April 2011.

One-Stop Shops are a measure taken to simplify the registration of new companies capitalized at under €100000, a category of firms in which almost all web startups fall into, and of every corporate form. Greek authorities claim that the new procedure cuts the number of steps required from 11 to 1 and the required days from 38 to 1 or 2. According to George Papandreou, former Prime Minister of Greece, One-Stop Shops would boost transparency and reduce bureaucracy.
5. Discussion

The aim of this section is to draw some results from the analysis done in the previous section. These results will lead us to an answer to the research question of this thesis.

Q: How can Greece support the growth of web startups?

We can summarize the key issues that Greece is facing in terms of web entrepreneurship. Those are:

- Legal framework and public policy
- Distrust by foreigners and weak connections with them
- Political and economic instability with no long-term planning
- Size and power of the community
- Wrong impression about web entrepreneurship

I strongly believe that Greece has a great chance to increase web entrepreneurship. Most of those issues can be easily resolved but require time. The problem is that the Greek government is under tremendous pressure from EU member states that are focus on short-term results for the improvement of the economy.

Taxation and law policies reformations are amongst the hottest issues that the new government will need to resolve. Important steps have been taken to improve the legal framework with the introduction of IKE and One-Stop shops.

However, according to Mr. Draganidis, this is not the biggest issue regarding law policies. Persistent entrepreneurs with smart ideas will find a way to put their ideas into action. The main issue according to him is the tax law. Taxes are much higher than in other countries. The flexibility provided by the EU for citizens to establish companies abroad makes Greece extremely unattractive to foreigners. Greeks have the opportunity to go abroad and will definitely do so in the future if things are not improved. They have actually already started doing so in their effort to receive capital.
The general consensus amongst the Greek web startupers is that there is a strong buzz around them and that we are at times of changes that will determine how things will evolve in the future. However, one could easily respond that this is due to the myopia of the community. After all, when someone puts all his effort in a startup it’s easy to lose track of what is really happening in the broader market.

But it’s not only the people that are actively involved that share this opinion. Nowadays, there are references on a daily basis in the mass media on web startups. The success of a few Greek companies in other markets grabbed the attention of foreigners.

Unfortunately though, media attention does not convert to users. The lack of experience in the field hold back Greeks from moving quickly into new markets. They need to adopt a new and more aggressive mindset and move abroad.

The problem gets bigger due to the inability of Greek entrepreneurs to think in a global scale. On the other hand, Greece has the advantage that the customers are disappointed; they are actively seeking for new and more affordable solutions and they are willing to participate in making this happen. There is a lot to learn from the market in Greece and many new opportunities to explore. Starting from the personal needs that Greeks face in the troubled economy, a whole new spectrum of startups can be implemented. Entrepreneurs need to utilize local resources, but eventually they have to go global. It is startups that solve real life problems that will grow.

The political insecurity is a major issue. It is the first time in the recent history of the country that Greece has a coalition government. The need for cooperation is more evident than ever. Signaling a healthy environment is extremely important but nothing has been done towards that. Instead, the consensus is that Greece is has lost control. This is a general issue that is beyond the scope of web startups. The role of the country’s media should be to show abroad a different image of Greece.

However, the pressure by foreign states does not allow Greece to make long-term plans. Ministers need to prioritize the issues they face and web startups have not yet reached the critical mass to ask for favorable treatment.
6. The Paradigm Shift

The biggest question the Greek web startup ecosystem faces today is whether it is going to overcome the obstacles and gain global attention or it is eventually going to shrink and become another bubble.

It is extremely difficult to foresee the future, especially while the Greek economy is still in deep recession. Is it worth it for Greek policy makers to invest time, money and effort in supporting web communities while they are still at such an early stage?

As mentioned earlier, the ecosystem is still too young and small. The government hesitates to take drastic measures to support web startups and traditional investment funds are not suitable for them. Furthermore, it would be difficult to limit any policy changes to web startups; companies in other industries could easily make use of laws for favorable treatment and consequently those changes could result in more harm than good.

Does that mean that the right thing to do at this moment is to leave the ecosystem as it is? Not necessarily. The biggest benefit the growth of web entrepreneurship would have for Greece is that it could be the beginning of a paradigm shift, a paradigm shift towards a more productive and efficient working mentality that expands beyond the scope of web startups.

Greece is currently required to change drastically in order to grow its economy. The vast majority of Greeks still holds a passive stance and expects the government to initiate actions, even though there is an ongoing public debate whether the government is making the best decisions.

The problem arises from the fact that for many years Greeks developed their businesses under the illusion that the current paradigm was sustainable. Greece had until the beginning of the crisis one of the highest rates of entrepreneurship in Europe as indicated by GEM’s data. This ranking is mainly due to the strong Greek agriculture, since farmers are taken into consideration as self-employed entrepreneurs.
Entrepreneurial activity in Greece always involved receiving government funding. In many cases that was the sole goal for company formation; firms were created with vague business plans so that entrepreneurs would receive the funds. Funding was provided for years with the support of the European Union through several programs. The criteria for companies to participate in the programs did not include contribution to innovation but were instead promoting uniformity and standardization in order to simplify financial audit.

This reliance of Greeks on the public sector has very deep roots. For years, many Greeks believed that getting a position in the public sector was a great perspective for their careers. It was well paid, secure and offered a relaxed environment to work in. But as it turned out, the public sector was the first to be affected by the austerity measures through layoffs and salary reductions. Nowadays, working in the public sector is unattractive and Greeks seek new opportunities either in the private sector or even abroad.

We’ve already mentioned that this creates an opportunity to motivate people to join startups. But web startups have more to offer than job creation. Web startups operate in a fundamentally different way than most current businesses in Greece, a way that is an interesting paradigm on the directions Greeks should head towards. The way web startups are organized, the attraction of foreign investors and the different breed of entrepreneurial spirit could be an example of how other industries in Greece should get organized as well.

First of all, the web startup ecosystem has a different attitude towards failure. Failure is tolerable to a certain extend and should also be expected. The high risk involved in such endeavors results in high failure rates and investors are familiar with that. Entrepreneurs have a particular skill to learn from failure and get back on business. Greeks need to learn from that, especially since they have to work under extreme uncertainty and instability during the crisis.

Moreover, web startups seek less support from the public sector. Their main request is a legal framework that will be more flexible and allow them to act faster. But apart from that they don’t rely on public funds. Web entrepreneurs have developed tools and techniques to grow their companies while keeping expenditures as low as
possible. They also learn how to move from the local market abroad and they cooperate closely with foreigners, both in terms of investments and knowledge exchange.

More important, web startups cultivate a culture of innovation. From the introduction of new products and services to everyday operations, web startups have to work smarter. The aforementioned difficulties force their employees to be creative and think out of the box.

So far the media bias in Greece has been positive for startups. Perhaps this could be the starting point for a campaign to promote entrepreneurship in Greece. However, I strongly believe that supporting and promoting web entrepreneurship will have a strong effect in the overall working mentality in Greece.

Traditionally, most people associate entrepreneurship with the act of starting new business ventures. This is a common misconception since this is just one form, the most obvious, entrepreneurship might take. Stevenson’s definition provided earlier does not limit entrepreneurship to certain forms. For example, corporate entrepreneurship is the act of implementing the same principles in a corporate environment of an established organization. Stevenson’s definition covers effectively the conditions many Greeks face in their working environment: limited resources and a need for creative thinking in order to pursue new opportunities.

A second common misconception about entrepreneurship is that it relies on idea generation. New ventures usually start by people who have innovative ideas and the passion to introduce them to the market. But this is not necessary. Entrepreneurs, based on the previous definition, are the people who know how to make ideas happen, not the ones that come up with them. I believe that Greeks will benefit from this approach. Data show that while Greeks the longest longer shifts, their productivity as measured by GDP per capita is lower (OECD, 2012). This means that there is a lot of room for improvement in the working mentality. Educating Greeks on the characteristics and qualities that entrepreneurs share is a way to improve their efficiency.

This explains as well why Eric Ries goes one step further. During a meet-up on the lean startup methodology in Copenhagen, Eric Ries argued that entrepreneurship is
the management discipline that deals with high uncertainty (2012). In cases of high uncertainty, such as the conditions Greece faces, traditional forecasting models may fail and managers are required to act as entrepreneurs. However, the tools of general management are different from the tools of entrepreneurial management and training and education are required. Ries believes that entrepreneurship is a corporate function that should exist in every organization, just like marketing and sales.

In the following section, the case of Code For America will be presented. This is an example of how web entrepreneurship may support one of the most challenging working environments and the one with the least amount of flexibility, the public sector. It also showcases how interaction with web startupers, in a way very similar to Eric Ries’ opinion, can affect the working mentality of the employees.

6.1. Code For America

Code for America (CfA) is a non-profit, non-political organization founded in 2009 in the USA. CfA cooperates with city government in the States to improve the efficiency of municipal governments with the use of web technologies. This is done through fellowship programs that run for 10-months in each city. The 2013 program is the third and the number of participating cities has grown to nine, including New York and Los Angeles. The fellows might vary from engineers and designers to civil experts and technology industry leaders. The outcomes of the program are applications that promote openness and participation of the citizens in their communities.

CfA was inspired by Tim O’Reily’s concept of Government 2.0, where people inside but also outside the government can contribute to public services (2009). Jennifer Pahlka, founder and executive director, gives credit to O’Reily for supporting that government is essentially about doing together what we can’t do alone (Walters, 2012). Web 2.0 tools have proved that people are very good at collective action with the use of technology. O’Reily envisioned an open platform that enables anyone with a smart idea to build or improve public services in order to bring the government closer to the citizens and enable the latters to participate in important decisions.
While some would argue that such a scheme wouldn’t be effective, Barack Obama publicly supported changes in technology use by the public sector during his first election as a President. Furthermore, President Obama created the Chief Technology Officer position in April 2009 in his endeavor to promote technological innovation in order to support job creation, reduction of health care costs and national security.

Except of Jennifer Pahlka and Tim O’Reily, other notable members of CfA include Eric Ries, Clay Shirky, John Lilly and Andrew McLaughlin. The staff and advisors come from different disciplines ranging from entrepreneurs, investors or technology evangelists to policy makers and politicians. However, most of them have had experience in the private sector as well, which is important in order to bring a fresh mindset in public administration (Code For America, 2012).

But how is actually CaF working? The selected fellows work closely with city staffers and receive training by them on day-to-day operations and strategy. Fellows also cooperate with a number of mentors from CaF. The final goal is to identify civic problems and to develop innovative solutions with the use of technology. The main benefit for cities is that they get to resolve those issues faster and cheaper compared to using traditional methods. As mentioned earlier, startupers are used to work with limited resources available and under numerous others constraints and as a result they have to use their ingenuity to come up with smart solutions.

The final products of the partnerships between CaF and the city governments are web applications that promote participation of the citizens. Those civic applications serve as a platform for people to help themselves, but also others as well. It’s the collective use by the citizens that makes those applications work. In a sense, CaF is building the tools to crowdsource the government’s issues. One method they use is the gamification in order to engage the citizens to use the new tools. Gamification is the use of game mechanics and strategy in services in order to motivate the users to make use of them. While traditional methods such as volunteering are usually unappealing and boring to most citizens, gamification makes the citizen work with the city services in a new and interesting way.
An important characteristic of the applications developed during the program is that they are all open-source. This means they are available to other cities if they decide to use them. Apart from reusability, engineers also pay attention to the scalability of their applications. City governments might be the starting point, but there are definitely problems at every level of government where those people can help. By building something locally and using it nationally small experiments can drive big changes.

But most probably the biggest change CaF is trying to implement is to introduce a new way of working in public government. Civil staff usually has limited flexibility due to the bureaucracy. On the other hand, the staff of CaF is using different methodologies in order to achieve their goals. It’s not a matter of killing bureaucracy; bureaucracy and common rules are essential to public services. But it’s only through increased transparency and openness that both civil staff and citizens will benefit from it.
7. Concluding Remarks and Suggestions

The research presented above not only confirmed that Greece has the potentials to support web startups at their early stages but also identified the key themes that need reformation in order for the web startup ecosystem to prosper.

The model created took into account all current actors in the Greek web startup ecosystem and can be easily adopted by other countries whose economies face similar issues. Of course, as mentioned earlier, small adjustments are needed in order for the model to act as a realistic representation of the ecosystem.

At the moment Greece provides a very unstable environment, but at the same time it is a very promising country. Greeks have a tradition of resurrecting under difficult circumstances and the latest actions in Greece show that they have not given up yet. On the contrary, after the initial shock in 2009, they are finally taking measures at every possible level to improve their image abroad and become more competitive. It is essential for Greece to become again an appealing market for investors.

It is often during difficult times that new opportunities arise. The economy needs to grow from robust and sustainable business models. Web startups can surely support the economy primarily by the establishment of companies that operate in a global scale and subsequently by the attraction of foreign investments. But the paradigm shift on the working mentality will definitely be the biggest benefit of a thriving web startup ecosystem in Greece.

7.1. Delimitations of the Findings

The problem statement has been put together after close examination of how this subject could be addressed so that this study provides a sufficient analysis with the essential facts. However, some limitations have been necessary in order to meet those criteria.

As mentioned above, Greece is going through a phase of major transformations. The puzzling result of the national elections of May 2012 that led to a second round of
elections in June 2012 and the need for cooperation amongst the political parties will definitely play a major role in future strategies for growth in Greece. A rapid change either in the economy or the political scene of Greece might make it impossible to implement the existing long-term strategies in Greece.

The lack of quantitative data for the Greek web start ecosystem makes the credibility of some general observations questionable. There are opinions that are generally perceived by the public as true, but without the support of data it is possible that they are even misleading.

Another limitation was that due to contractual restrictions from investors, some entrepreneurs that were asked to be interviewed could not go into details about the issues they face. While the answers given by the interviewees for this thesis were very informative, a bigger sample could potentially raise new points of concern or new ideas for improvement.

Finally, web startup ecosystems are characterized by high complexity and their characteristics differ across countries and cultures. The use of the single case of the troubled Greek economy cannot draw concrete conclusions, but can still be a point of reference for other markets.

7.2. Suggestions for Further Research

Due to the use of a single case study, we have a limitation in the generalizability of the research done. Further research and direct comparison with another country will provide new insights to the issues web startups ecosystems deal with in troubled economies. This can be done in two ways. Firstly, compare Greece with another European country that has an established web startup community, such as Germany or Norway, to understand whether the success ingredients are applicable in Greece. Secondly, compare Greece with another country that is currently building a strong web community to assess the level of difference of the ecosystems.
Moreover, measuring the participation of Greek entrepreneurs in events organized abroad we would be able to map the interconnections of the Greek community with others and identify patterns of possible opportunities.

Finally, taking into consideration foreign investments in Greek web startups would be extremely interesting in order to measure their effect. Research around this theme has been conducted in the USA as mentioned earlier, but the lack of data for Greece and the heterogeneity across Europe hinder such studies for now.
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