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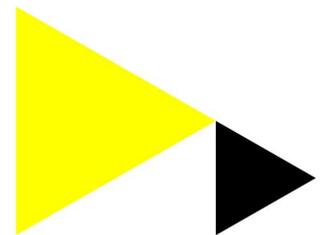
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The plight of London-based startups: relocation uncertainty due to Brexit

Amelia Román¹ and Niels Baay²

Abstract

With Brexit looming, start-ups in the London ecosystem may ask themselves whether they are still in the right place for their business. Are they considering a move to *the continent* due to the ambiguous Brexit developments? This research analyzes the probability of international start-ups based in the London region relocating to another European entrepreneurial ecosystem. We use location decision theory and secondary data from the European Digital City Index to rank the most attractive eco-systems for the possible relocation of London-based start-ups. In addition, we interview London start-up founders asking how likely they are to leave and where they envision continuing their entrepreneurial endeavors. This study examines whether London will lose its top rank as the most attractive entrepreneurial ecosystem in Europe. We ask which of the competing ecosystems of Europe stands to gain from London's possible loss. Our quantitative analyses show that Amsterdam is the most likely hub to benefit from any exodus. The qualitative analyses conveyed a mixture of concern and ambivalence as only three of the startups considered relocating their headquarters to another ecosystem. Six of the startups have either opened an office in another European ecosystem or are in the process of doing so. This allows them to watch and wait as they want to remain. The attractiveness of the London region, the social capital investments by team and partners, and the lack of finances to leave are the main reasons for not considering relocation of their headquarters currently.

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Introduction

The developments surrounding the on-going Brexit negotiations, create uncertainty in the financial markets and the global economy (Financial Times, 2019). Throughout this extended period, many London-based entrepreneurs weigh opportunities for relocation to European ecosystems against the cost of remaining in the London metropolitan area. Location decisions are of high strategic importance to every company, and this question is particularly pressing among current startups in the London entrepreneurial ecosystem. Conditions essential for entrepreneurial success in one region of the world are not applicable in another region. In simple terms, ideal conditions for Silicon Valley entrepreneurs are not necessarily the same for successful startups in Amsterdam, Helsinki, Paris, or Berlin. Each entrepreneurial ecosystem is unique for startups with the culture, institutions, and characteristics different from any other startup region in the world. This raises the fundamental question of whether European entrepreneurial ecosystems possess the necessary qualities to attract London startups.

Entrepreneurial and management theory include risk and uncertainty perspectives (Tversky, and Kahneman, 1992; McMullen and Shepherd, 2006). Magnani and Zucchella (2018) create a systematic approach of disentangling the terms. They point out an underdeveloped field of research on how entrepreneurs ascertain whether external uncertainty represents an opportunity. We build on this gap in knowledge using location decision theory to analyze the possible relocation assessments of London based startups due to Brexit. This deficit in incorporating uncertainty becomes evident with Brexit. Brexit provides a unique experiment illustrating how location decision theory fails to consider conditions of external uncertainty for entrepreneurs.

Definition of a Startup and Relocation

We define a startup as an entrepreneurial venture designed to search for a repeatable and scalable business model (Blank, 2010). These newly created ventures are usually highly innovative, and typically based on ideas, technologies or business models that did not exist before (European Digital Forum, 2016). A startup is not to be confused with a scaleup, which is a startup that has raised over \$1 million (Startup Europe Partnership, 2017). For this paper, the research conducted places the emphasis solely on entrepreneurial ventures that are startups, and thus does not include any form of scaleups. In addition, this research defines the act of relocation as the moving of the headquarters (HQ) of a startup from one entrepreneurial ecosystem to another entrepreneurial ecosystem.

Introducing the London Entrepreneurial Ecosystem

London is known for being one of the most successful startup ecosystems globally, producing the largest output of startups in Europe (Startup Genome, 2017). Currently, the city of London hosts on average around 5,100 active startups which is the fourth largest startup output in the world, and accounts for more than twice the number of startups compared to the next largest European ecosystem, Berlin, which hosts on average 2,100 active startups (Startup Genome, 2017). Overall, the London entrepreneurial ecosystem ranks first on a European level in all indices (European Digital City Index; Global Entrepreneurship Index; Startup Heatmap Europe; 2016), and ranks third according to the Global Startup Ecosystem Ranking conducted by Startup Genome in 2017, behind Silicon Valley and New York respectively. The capital's important financial sector assists in maintaining the competitive advantage over other ecosystems in Europe. Not only is London's startup industry the most developed in Europe (Nesta Report, 2016), but due to proximity to some of the world's largest banks, professional venture capital funds, and technology firms such as Apple, Google, and Facebook, London's startups have access to both potential investors and acquisition opportunities (Startup Genome, 2017). In addition, London's cultural diversity is one of the strongest attributes that its ecosystem has to offer, with the capital's

multiculturalism acting as a key differentiator compared to other global startup ecosystems (The Guardian, 2015). A study conducted by Balderton Capital (2016) finds that in 2015, over 40% of the new tech startups in the UK had at least one foreign founder. The essence of diversity in the UK technology sector is clear with more than 20% of startup employees coming from abroad (Balderton Capital, 2016). Despite London being one of the most attractive ecosystems for startups globally, since the EU referendum held by the UK in June 2016, numerous sources (The Guardian; Financial Times; TechCrunch, 2017) have indicated the possibility of a great number of startups considering relocating to other European ecosystems afore and after the initiation of Article 50 of the Lisbon Treaty of the EU on the UK, more commonly referred to as Brexit.

Brexit and the London Entrepreneurial Ecosystem

In its entirety, the EU is the largest trading partner of the UK and in 2016 alone, the UK exported £236 billion (43% of all exports) to other EU members states, and imported £318 billion (54% of all imports) from other EU members states (House of Commons, 2017). It makes sense that economic and political factors such as membership to the European Single Market, which seeks to guarantee the free movement of goods, capital, services, and people (the Four Freedoms) within the EU (European Commission, 2018), have contributed to the extensive growth of the London entrepreneurial ecosystem. However, with Brexit creating uncertainty in the free movement of these Four Freedoms, it is not surprising that according to the Coalition for a Digital Economy (COADEC), 80% of the startup industry in the UK voted against a Brexit (COADEC, 2016).

When former Prime Minister May announced towards the end of 2016 that the UK were to leave the European Single Market (BBC, 2016), few people could have anticipated that the following year would set a record amount for startup investments, with British startups raising \$7.7 billion, which was more than double the amount raised in 2016 (Dealroom.co Data, 2018). Despite investments reaching a record amount for UK startups in 2017, and there being confidence that the London ecosystem will not suffer excessively from macroeconomic or political events caused by Brexit, London currently ranks behind its European peers such as Berlin and Amsterdam with regards to its Global Resource Attraction Rate (Startup Genome, 2017).

Brexit, the Free Movement of People & the Access to Talent

Former Prime Minister May stated that “the UK guaranteed the rights of EU citizens who are already living in Britain.” But only a month after Boris Johnson became the new prime minister, he announced that there would be changes to the status of EU citizens residing in the UK immediately following withdrawal on October 31st, 2019 (Yong, 2019). Due to the uncertainty surrounding the ongoing Brexit negotiations, London already lost some of its technical talent to neighboring capitals, specifically to Berlin and Paris (Atomico Report, 2017). According to a source of the Financial Times (2017), this is “[...] not because the UK is not appealing anymore but because they (i.e. talent) don’t want to invest a year and then have to leave again”. Hereby, European nationals are avoiding a move to the UK given the current ambiguity regarding visas (Inc., 2018). A study by Balderton Capital (2016) claims that London’s attraction rate could further decline as higher recruitment costs of foreign talent who need visas could become a significant problem post-Brexit.

The Future of European Entrepreneurial Ecosystems

London’s cultural diversity of talent contributes to the multiculturalism in the startup ecosystem, which in turn is one of the strongest attributes which makes its ecosystem so unique (The Guardian, 2015). Therefore, it is not surprising that in results from a survey conducted by Balderton Capital (2016), 82% of the startups mention concern regarding access to talent post-Brexit. Brexit implies the withdrawal of the UK from the European Single Market (Financial Times, 2018), and thus access to the Four Freedoms. This

particularly puts the free movement of people in jeopardy of prospective limitations in a post-Brexit era (Financial Times, 2017). The study by Balderton Capital (2016) concludes that whilst London remains the leading startup ecosystem to date, losing just 20% of its startup workforce will result in talent dispersed across other European entrepreneurial ecosystems, resulting in there being no definitive leading ecosystem in Europe.

Given that studies indicate that Brexit has the potential to shift the startup ecosystem playing-field in the EU, it is essential to research this further. Based on this, we argue the need for an investigation to ascertain which European entrepreneurial ecosystem(s) stand to benefit by a possible exodus of the London startups. And this naturally leads to the next question whether London startups are considering relocation due to Brexit.

Theory

This section starts with an overview of previously conducted location studies and of the socio-psychological, or human emotional, factors regarding entrepreneurship respectively. Elements of these frameworks combine in a conceptual model for the research. In addition, we provide an overview of a selection of the European entrepreneurial ecosystems.

Location Studies

A review of prior academic literature on location studies highlights several key factors regarding the situation of London startups possibly leaving the entrepreneurial ecosystem and relocating elsewhere. Location studies conducted between 1950 and 1990 illustrate key findings on factors affecting location decisions. Hereafter, location studies conducted since the year 2000 illustrate several modern factors that could be of importance when considering current startup location decision making processes. A company's location decision is not arbitrary but strategic (Carlton, 1979; Woodward et al., 2006; Glaeser et al., 2009). Location decision models applied to analyze the relative importance of location specific characteristics in company's preferences of favoring one location compared to other locations (Carlton, 1983; Woodward et al., 2006).

Before the 1980s, location decision models proved to be rather limiting in their explanation of how market and economic forces affect the dispersion of industrial firms (Haider, 1998). Nevertheless, during the 1950s, Losch (1954) developed his least-cost theory for industrial location, which focused solely on industry specific factors. These factors related to the cost of production, such as (1) transportation, (2) labor costs, (3) access to raw materials and (4) external economies of agglomeration, which were among the four most traditionally cited location determinant factors at the time (Haider, 1998).

Two decades later however, Schmenner (1975) expanded on the existing yet limited knowledge on localization determinants identifying a two-step process in which firms determine their location site. The first phase considered major production factors such as transportation, (5) access to the labor market, and (6) market size (Haider, 1998). In the second phase however, without neglecting the major cost factors, *ceteris paribus*, differences in (7) taxes affect the firm's choice of location during the final evaluation of alternatives. So once a firm had narrowed down the choice of alternatives, based on production factors, to several comparable locations, only taxes could influence the final location decision (Schmenner, 1982). Schmenner's (1975) research expanded on traditionally cited factors affecting location to include factors such as (8) quality of labor, (9) business climate, and the (10) quality of life (Haider, 1998). Despite making great advancements, Schmenner (1982) expressed the difficulty of modelling industry location and concluded that either the data were inadequate, they applied wrong models, or that the uniqueness of each location decision lacked explanation using the applied models.

Carlton's (1979) industrial location studies analyzed the potential effects of labor costs, quality of labor (in this case engineers), taxes (corporate, property and personal income), economic agglomeration effects, business climate, unemployment rates and (11) energy costs (electricity and natural gas), all of which were at the interurban level. By the time this enhanced understanding evolved, industries began to shift, with the introduction of an ever-increasing number of young companies focusing especially on high levels of innovation and technology, thereby having completely different requirements for suitable locations. Today, these companies are commonly known as modern-day startups.

Industrial Births vs. Modern Startups

Despite previous scholars conducting their location studies on industrial births, their findings and respective models are still appropriate in explaining location determinant factors for modern startups. Several of the aforementioned factors such as the (3) access to raw materials, the (6) market size and the (11) energy costs are very appropriate in explaining location decision for startups, and have simply changed in terms of the perception and applicability to companies over time.

Classical location studies have attributed the location of an industry to the local access of inputs, such as raw material, or of outputs, such as the customers (Dahl & Sorenson, 2007). For instance, global producers of iron and steel are generally located in the proximity of iron ore and coal mines (Isard, 1948); in the same way a modern tech startup needs to be close to a high-speed internet source or a powerful mobile network as its raw material. Similarly, one could justify for the concentration of niche service providers in large cities as an efficient means of reaching its clients in a large market (Christaller, 1966), just as the presence on the digital market is now of essence for modern startups. Or how classical industrial companies had energy costs in terms of electricity and natural gas usage, which is comparable to the rent or cost of office space for many metropolitan startups today. We assume that the location determinant factors previously found by (Losch, 1954; Schmenger, 1975; Carlton, 1979), will have a similar importance for the location decision making process of modern-day startups.

Location Studies in Startups (2000s)

The introduction of the internet to the public in the 1990s allowed companies to offer products and services 24 hours a day throughout the world (Evans & Wurster; Hagel & Singer, 1999). As a result, the Securities Data Corporation estimated an \$108.2 billion investment in internet-related startups during the years 1995 and 2000 (Chang, 2004). The transition from the Web 1.0 era to the Web 2.0 era in the early 2000s consequently altered location determinant factors for startups. Audretsch et al., (2004) mentioned that earlier location studies by Carlton (1983) and Bartik (1985) failed to focus on the role of access to knowledge spillovers in the location decisions of startups. Numerous scholars have since identified that (12) knowledge spillovers from universities are a key source of promoting firm innovation and performance (Sorenson & Audia, 2000; Stuart & Sorenson, 2003; Audretsch et al., 2004). Audretsch et al., (2004) concludes that location decisions by the opportunity to access knowledge generated by universities influence startups active in the high technology sectors.

Another significant challenge faced by entrepreneurs, especially those concentrated in technology startups, is (13) access to capital (Denis, 2004; Shane & Stuart, 2002). These startups have little evident history of their performance and often hold ambiguous technologies, thereby creating financial concerns in how to signal the company's value to potential venture capitalists (Conti et al., 2013). As venture capitalists are known for investing locally (Gompers et al., 2010; Sorenson & Stuart, 2001), thereby making them vital in the seeding of regionally based entrepreneurship (Buhr & Owen-Smith, 2010), it is no surprise that those startups that are located in large metropolitan areas are best positioned to benefit from the facilitating access to venture capital (Farre-Mensa et al., 2016). Research

that highlights that technology startups are typically located in major urban centers supports this notion (Čalopa et al., 2014).

An additional factor that has an impact on location decisions, and is a key aspect of the startup process, is the possibility for entrepreneurs to recognize opportunities (Ozgen & Baron, 2004). In fact, many scholars have indicated that the recognition of opportunities is in fact, a crucial and initial step towards the creation of new ventures. A common theme in research suggests that access to relevant information plays a vital role in opportunity recognition (Shane, 2003; Ozgen & Baron, 2004). A study by Ozgen & Baron (2004) analyzed three social sources of information, namely through (14) mentor assistance, (15) (in)formal networking events, and (16) participation in professional forums, found to have direct and positive effects on opportunity recognition by entrepreneurs. As a startup is the actual realization of an entrepreneurial opportunity, the whereabouts of available and accessible information that is relevant for the startup community is a location determining factor. Modern startups are often known to make use of accelerators and incubators which are locations where entrepreneurial support and information is widely available.

Despite the above-mentioned importance of location determinant factors in entrepreneurial opportunity recognition, few studies focus on understanding how location choice varies across different cultural dynamics. Although Hofstede's (1980) focus was not directly on the relationship between national culture and location decisions for companies, his findings did suggest that national culture impacts the decisions and activities of companies, hence intuitively incorporating the decisions surrounding (re)location. Location decisions involve uncertainty by nature, and one of Hofstede's (Hofstede et al., 2010) 6 cultural dimensions is (17) uncertainty avoidance, which seeks to capture societal attitudes toward risk, ambiguity, and unpredictability, and thereby support beliefs and behaviors that promise certainty and conformity.

Most companies experience exceeding levels of uncertainty when making location decisions and will factor this uncertainty into their decision-making processes. The level of uncertainty avoidance in any given society is therefore of influence on a company's approach to location decisions and preferences. This creates an interesting dilemma for current startups in London's entrepreneurial ecosystem, as both (re)location decisions for companies and Brexit create uncertainty. This raises the tantalizing question of whether London startups will consider relocation due to the uncertainty the process creates, or whether it is simply a matter of when these startups will relocate due to the uncertainty surrounding Brexit. It is therefore important to consider psychological factors of the entrepreneur that influence the decision-making processes with regards to location decisions. We elaborate this aspect in the next section.

Quality of Life and Entrepreneurial Location Decisions

Despite quality of life (QOL) being mentioned earlier as a location determinant factor in the research conducted by Schmenner (1975), it justifies to elaborate on QOL as it was frequently reported as a decisive location factor when comparing one site to another (Carn & Rabiński, 1991; Sarvis, 1989), and thus its potential effects on startups location decision making.

According to Felce & Perry (1995), QOL is the general well-being of individuals and societies, outlining negative and positive features of life, and it observes life satisfaction, including everything from physical health, family, education, employment, wealth, religious beliefs, finance, and the environment. Towards the end of the last century, numerous scholars (Schmenner, 1982; Boyle, 1988; Harding, 1989; Myers, 1987; Love and Crompton, 1999) acknowledged the increasing importance of QOL in location decisions of companies. Love and Crompton, (1999), analyzed a total of 50 location determining factors which subdivided under labor & cost issues, daily living concerns, QOL, proximity to relevant publics, and

government involvement and taxes. The study concluded that QOL, as an overall location determinant factor, received an unanticipated low ranking and constantly ranked below overall location determinant factors such as labor & cost issues and daily living concerns. To get a better understanding of what the study by Love and Crompton (1999) measured, QOL included determinants, among others, such as spouse employment opportunities, quality of primary/secondary education, environment quality, and recreation & culture opportunities. Whilst labor & cost issues included determinants, among others, such as availability of labor, labor costs, cost of office, and availability of child care; the daily living concerns included the determinants of crime rate, personal safety, housing costs, and access to transport.

Despite QOL not being the most decisive location determinant factor, the study by Love and Crompton (1999) had several interesting findings. First, QOL was most important to smaller companies, recruiting less than 8 employees, in comparison to larger companies, recruiting more than 88 employees. Secondly, decision-makers of the companies which employed large amounts of skilled labor allocated considerably more importance to QOL factors than companies with less skilled labor. And finally, those companies that ranked the ability to attract and retain professional employees as their main priority placed considerably more importance to QOL factors compared to companies who ranked this scenario as a lesser concern (Love and Crompton, 1999).

When incorporating the findings by Love and Crompton (1999) with those of other scholars (Schmenner, 1982; Rogers & Larsen, 1984; Myers, 1987), who found that QOL as a location determinant factor is particularly influential for companies which operate in R&D and high technology industries, the type of company that emerges which fits most of these criteria are the modern-day startups. It is for those reasons QOL is a significant variable to identify location determinant factors for startups in the London ecosystem.

Proximity to Family & Friends and Entrepreneurial Location Decisions

The notion to set up a company in the proximity to where an entrepreneur has emotional connections such as to family and friends seems an intuitive one, however, the previous reviewed literature failed to conceptualize this factor. According to Dahl & Sorenson (2007), entrepreneurs tend to locate their businesses in regions in which they have long histories and deep social connections. The notion of entrepreneurs locating their ventures close to their home regions (Figueiredo et al., 2002; Dahl & Sorenson, 2007) contradicts the traditional definition of the entrepreneur according to numerous scholars (Kirzner, 1973; Begley & Boyd, 1987; Astebro & Thompson, 2007). These scholars define an entrepreneur as someone who is unaffected by ambiguity, unrestrained by uncertainty, and has a predisposition for novelty. Following this definition, one expects an entrepreneur to embrace new technologies in addition to new locations (Dahl & Sorenson, 2009).

However, Dahl & Sorenson (2009) found that one main reason why entrepreneurs should consider their home regions as the prime location for their new ventures lies in being able to leverage their social capital, which refers to the range and depth of an individual's social network, the strength of which is determined by the frequency of interaction with a large number of long-lasting acquaintances (Dahl & Sorenson, 2007). The contrary is also true for entrepreneurs who decide to locate away from their home region, which will result in them not only losing the instrumental value that their social capital provides, but also the corresponding emotional value (Dahl & Sorenson, 2009).

Support for the notion that social capital affects entrepreneurial location decision making comes from Sorenson & Audia (2000), who argue that entrepreneurs remain embedded in their home regions because individual networks assists them to find venture capital, to employ labor, to develop supplier

relationships, and to attract customers. Additionally, Sorenson & Audia (2000) argue that potential investors, employees, suppliers and customers may possibly place greater trust in entrepreneurs with deep roots in a certain region, and are therefore more likely to offer their support or services.

To summarize, new ventures located in the home regions of the entrepreneur not only perform better on average and have longer survival rates (Dahl & Sorenson, 2007), but also offer the possibility for entrepreneurs to leverage their social capital (Sorenson & Audia, 2000; Dahl & Sorenson, 2009). In addition, the study by Dahl & Sorenson (2009) finds that social factors, such as (18) proximity to family and friends, weigh up to 4 times more in location decisions made by entrepreneurs compared to economic factors.

There exists an interesting affiliation for entrepreneurs between their home region in which they can leverage social capital and that of choosing the optimal location for their ventures. On the one hand, home regions of the entrepreneur positively affect the performance of their venture, but on the other hand, opting too soon to locate in the home region prevents entrepreneurs to consider alternative locations that might give more economic benefits to their ventures. All things considered, when the time comes for the individual entrepreneur to make location decisions, it is a matter of calculating both the corresponding personal socio-psychological and economic opportunity cost of each location alternative. Disregarding the continuous question of whether choosing the home region helps or hinders entrepreneurs (Dahl & Sorenson, 2007); it is a vital factor within the scope of Brexit and the possible relocation decisions of startups in the London ecosystem.

European Entrepreneurial Ecosystems

This paper focuses now on the actual physical locations themselves. The entrepreneurial ecosystems considered as possible alternatives to London are Amsterdam, Berlin, Dublin and Paris. As one would expect, all the cities analyzed provide strong ecosystems, and are among the top 5 European ecosystems in all rankings (apart from Dublin, which we explain later). Instead of an in-depth summary of each ecosystem, this section provides a brief explanation of why we choose these ecosystems and what makes them unique.

The Amsterdam Ecosystem

Amsterdam is a capital city and among the 3 most cited entrepreneurial ecosystems considered a possible relocation destination for London startups in a post-Brexit era. Reasons to consider the Amsterdam ecosystem as a contender are its proximity to the UK and London specifically, with a Eurostar railway connection establishing a direct route between the two cities in little over 3hr 30 min. Another major factor is the advanced level of English proficiency, with nearly 90% of the Dutch population speaking English (Startup Genome, 2017). Finally, the relatively attractive tax haven hosted by the Netherlands, charging a corporate tax rate of 20% for taxable income up to and including €200,000 and a corporate tax rate of 25% above that amount (Deloitte, 2018).

The Berlin Ecosystem

Berlin is another capital city among the 3 most cited entrepreneurial ecosystems considered a possible relocation destination for London startups. Berlin has publicly campaigned for hosting the leavers. Two weeks after the UK referendum, the German liberal party FDP rented an advertisement lorry with the text "Dear startups, keep calm and move to Berlin", to drive around the London ecosystem (The Guardian, 2016). Another political action came from a German senator who sent a letter to hundreds of London startups to inviting them to Berlin (Business Insider, 2016). Berlin is a close alternative to the London ecosystem. In addition, Berlin is less expensive, provides plenty of opportunities for growth, and has the lowest rent prices compared to competing ecosystems (EDCi, 2016).

The Dublin Ecosystem

Dublin is the only ecosystem considered a possible destination for London startups that does not rank among the top 5 European ecosystems. However, it is important to consider Dublin as a possible location for several reasons. Dublin is the capital of Ireland, and shares a border with Northern Ireland, part of the UK. After Brexit, Ireland will remain the only English-speaking country in the Eurozone. Another well-known factor that makes Dublin of interest, are the low corporate tax rates compared to other competing ecosystems of just 12.5% (Deloitte, 2018). Companies like Google and Facebook have their headquarters stationed in Dublin for these reasons, and the presence of these conglomerates is an additional factor to consider Dublin as their relocation destination.

The Paris Ecosystem

First and foremost, the Paris entrepreneurial ecosystem is geographically the closest to London compared with competing ecosystems. Emmanuel Macron, President of France, has also been operating political campaigns to attract London startups to the Paris ecosystem. Since his election as President, Macron made his ambitions clear in wanting to turn France into a startup nation and “a country of unicorns” (private companies valued at more than \$1bn) (Financial Times, 2017; Reuters, 2017), and introduced his famous “tech visa” to make it easier for French startups to hire foreign talent and for international entrepreneurs to set up shop in France (Quartz, 2017).

Paris also hosts the world’s largest startup incubator named Station F, unveiled by President Macron in June 2017. Station F accommodates more than 1,000 international startups and corporates like Facebook and Microsoft in a 34,000 m² facility (Financial Times, 2017).

The Barcelona, Copenhagen, Helsinki, & Stockholm Ecosystems

Depending on the ranking institution, one or more of these cities successfully made it into being part of the top 5 European ecosystems. Despite showing promising outlooks to be a top contender in attracting London startups, over the last few months, Barcelona has negative reports in the media due to Catalonia’s demand for independence from Spain (European Startup Initiative, 2017). These political developments and the uncertainty that coincides, puts Barcelona’s future as a major European ecosystem at risk. Access to capital is problematic because of the Catalanian uncertainty (European Startup Initiative, 2017). It makes no sense for a London startup to relocate solely due to the uncertain events surrounding Brexit, to another city which hosts political uncertainty like Barcelona. In several of the latest rankings, the Copenhagen, Helsinki and Stockholm ecosystems reach the top 3 European ecosystems. However, the distance from the London ecosystem makes them an unlikely contender benefit from startup relocation following Brexit. The fact that there has been no media coverage by respected startup entrepreneurial forums mentioning any of the Nordic ecosystems, supports this. We include them in the preliminary analysis to be certain.

The European Digital City Index

The model used as a guideline for this paper is the European Digital City Index (EDCi) of 2016, which describes how well different European cities support digital entrepreneurship and startups (Nesta Report, 2016). The EDCi provides information about the strengths and weaknesses of local ecosystems and describes what ecosystem indicators are most valuable to attracting and retaining startups (Nesta Report, 2015). The EDCi includes indicators which relate to various policies, economic, social/cultural, and technological factors, which allow European startups to coordinate and locate accordingly, and consider where they may need to allocate more resources (Nesta Report, 2016).

At the time of this research, the 2016 index was the most recent version of the EDCi including 60 European cities in 28 European countries. The EDCi comprises themes that summarize the

entrepreneurial environment of a given city. Each theme has several individual indicators that capture different aspects of digital entrepreneurship. In the end, the EDCi index of 2016 contains 40 of the most relevant indicators for startups grouped into 10 themes: Access to Capital, Entrepreneurial Culture, Mentoring & Managerial Assistance, Skills, Business Environment, Digital Infrastructure, Knowledge Spillovers, Market, Lifestyle, and Non-digital Infrastructure. The structure of the EDCi index of 2016 is in the appendix.

The composition of the EDCi index of 2016 is based on 70 interviews with entrepreneurial experts and extensive academic research. The interviewees are entrepreneurs with comprehensive knowledge of digital entrepreneurship, either through first-hand experience in setting up a business, by supporting startups, or by providing startups with venture capital. Both the academic research and the interviews aim to clarify the importance of each indicator and their role in supporting the growth and creation of startups.

The EDCi Model

The EDCi index of 2016, hereafter solely referred to as the Index, is comprised of 10 themes, subdivided into 40 individual indicators. It is not a coincidence that a correlation exists between the 18 general location determinant factors discussed in the previous literature, and the themes and indicators used in the Index. This makes sense, as we expect a startup to choose an entrepreneurial ecosystem that offers certain factors that are vital to its company operations. The factors that influence the decision-making process of startups to locate in one ecosystem, and not a competing ecosystem, are decisions based on location determinant factors.

The previous literature on location studies and location decision making demonstrates that certain location determinant factors had different names over the preceding century. For these reasons, several location determinant factors analyzed in the prior literature review, and those illustrated by the Index, differ regarding their assigned names. Therefore, we assigned each of the 18 location determinant factors a number corresponding to its order of appearance in this paper, with (1) transportation being the first, and (18) proximity to family and friends as the last location determinant factor covered in the theoretical framework. The location determinant factors covered by the theoretical framework relate to the corresponding indicators of the Index, by positioning the respective number next to the name of the Index indicators. Finally, not all the 40 indicators illustrated in the Index are related to the 18 general location determinant factors in the theoretical framework. The tailored conceptual model includes only those Index indicators that have a direct or indirect correlation to location determinant factors from the literature review.

Figure 1 here

Research Methodology

Overview of Research Methods

Although there are many studies on locations decisions, there is little knowledge about how entrepreneurs choose to locate their new ventures. This becomes more apparent when combining the location decisions for startups with Brexit. Consequently, the events surrounding Brexit give this paper

an exploratory research approach, where little is in fact known about the situation at hand. For these reasons, this paper will make use of both primary and secondary data sources.

To provide possible answers to the first sub-question, we need calculations to classify and rank European entrepreneurial ecosystems. We use quantitative techniques based on the numerical values from the original Index to enable application of inferential statistics. By doing so, we can measure the location determinant factors as visualized in the tailored conceptual model. However, we first apply several modifications to the original Index to answer the first sub-question.

Quantitative Research Methods

The original Index consists of 40 individual indicators, subdivided into 10 general themes. However, the literature review supported a total of 18 general location determinant factors. These 18 general location determinant factors cover multiple individual indicators from the original Index, as is clear in the tailored conceptual model.

We reduce the 40 individual indicators to a total of 30, and adapt individual indicators to individual location determinant factors. The tailored conceptual model visualizes this process (see Figure 1). In addition, several of the original indicators and themes are subject to name changes to match the terms used in the theoretical framework.

Next, the consequent weighting of these location determinant factors needs alterations. The original Index established the weights at both the indicator and at the theme level on behalf of the expertise of 70 entrepreneurial professionals and extensive secondary research. We do not use these weights in this research because of the reduction from 40 indicators to 30 individual location determinant factors. We categorize the weights of the individual location determinant factors under low (0.333'), medium (0.666') and high (1.000). Furthermore, we gather the raw data of the Index used to assess the location determinant factors from numerous European sources, and tailor to either a national, city or Nomenclature of Territorial Units for Statistics (NUTS) 2 level.

We allocate a numerical value to one of the two location determinant factors, (7) Taxation Cost, added to the original Index, to quantify it. The Taxation Cost is simply a reflection of the national level of corporate tax, expressed in terms of decimal units, retrieved from data by Deloitte (2018). Following the literature review, in addition to its highlighted importance in the media coverage on Brexit, we assign the factor a medium weight.

We add one last location determinant factor (18) Proximity to Family & Friends, and we leave it as a qualitative variable. Proximity to Family & Friends on the other hand, remains to be an unquantifiable factor, and is the only location determinant factor argued in writing. We collect the data on this location determinant factor for the analysis of the second research question. We assign a high weight to Proximity to Family & Friends based on the literature review. The total number of location determinant factors is 30, of which 29 quantified in the tailored Index, and one location determinant factor is qualitative.

Finally, the total number of European ecosystems for analysis remains unchanged. We use the total of 60 European ecosystems to create the tailored index. If previous ecosystem ranking indices are indeed correct, one would expect the London, Amsterdam, Berlin, Dublin and Paris ecosystems positioned among the top 10 ecosystems of this tailored index. Therefore, the additional 55 European ecosystems serve as control variables. The raw data collected by the Index undergoes several processes before answering the research question. We explain these processes in the next section.

After tailoring the Index indicators from 40 to 29 quantitative location determinant factors, certain issues arose in the raw data set regarding the comparison of factors in relative, rather than absolute terms. For example, Paris and London each have more than 7 times the population of Dublin or Helsinki. Therefore, it was necessary to standardize certain location determinant factors in the raw data set in absolute values by the corresponding city population to make these ecosystems comparable on the same scale. Most of the data is at the NUTS2 level of measurement. However, some information is only available at the national or city level. We used this as a proxy after adjusting to the standardized metric (such as GDP per capita, city population size or total number of startups). In total, 9 of the 29 quantitative location determinant factors were subject to standardization.

The original Index is based on a benchmarking norm, where baseline values can significantly affect an ecosystem's final rank. If any outliers are present, inappropriate benchmarks appear, resulting in an inaccurate interpretation. The threshold based on Groeneveld & Meeden (1984), sets the criteria for a normal distribution as having a kurtosis less than 3.5 and an absolute skewness less than 1 to identify outliers. This means that a skewness which was larger than 1 indicates the presence of upper-end outliers, and a skewness which was smaller than -1 indicates the presence of lower-end outliers. However, after some careful consideration, we decided to relax the skewness criterion of Groeneveld & Meeden (1984) to an absolute skewness of 2, to account for the relatively small sample size of 60 entrepreneurial ecosystems.

We use a winzorization technique (Chambers, 1986) to treat the location determinant factors that contained outliers. For factors with upper-end outliers, we convert the largest value to be identical to the value of the second largest value, and for those with lower-end outliers; we convert the smallest value to be identical to the value of the second smallest value. We repeat this process until the location determinant factor's skewness and kurtosis fell within the acceptable limits. In total, the values of 10 entrepreneurial ecosystems within 6 different location determinant factors were subject to winzorization, where the standardized data exceeded the kurtosis of 3.5 and an absolute skewness of 2.

Furthermore, we apply normalization techniques on the dataset because the location determinant factors had different measurement units and scales of magnitude. We use the min-max normalization method, which normalized the 29 location determinant factors to within an identical scale between [0,1] by subtracting the smallest value and then dividing by the total range of values for that location determinant factor. This normalization technique has the benefit of increasing the differences between values, even if real deviances are small, allowing for adequate differentiation between the 60 entrepreneurial ecosystems based on their scores. Figure 2 in the appendix illustrates this concept.

The final index results after conversion of all the location determinant factors to numerical values between zero and one, subject to the min-max normalization method. We do this by multiplying each of the 29 location determinant factors that were subject to normalization, by the respective weights assigned by the original Index. We take the total sum of each of the 60 entrepreneurial ecosystems, creating a table of the entrepreneurial ecosystems based on their total value, ranging from highest to lowest.

We conduct a Principal Components Analysis (PCA), To test the fitness of the min-max normalization results which assessed the between-location determinant factor correlation. The number of principal components used to describe the final data is based on the Kaiser criterion, which selects those principal components with an eigenvalue of 1 or more.

Qualitative Research Methods

We define the target population as all the active startups registered in the London metropolitan area, where a startup is, an entrepreneurial venture designed to search for a repeatable and scalable business model (Blank, 2010), and valued under \$1 million. According to Startup Genome, in 2017 London hosted on average between 4,300 and 5,900 active startups and scaleups, so the mean of 5,100 represents the total population size.

The sample frame used is the Tech London online platform. Tech London is a platform with approximately 3,500 registered London startups, and provides contact information, in addition to the actual location of the registered startups in London, thereby confirming that the sample frame respects the designated population. In addition, we performed a background check before approaching each startup, using the online data platform Crunchbase and the Company House platform operated by the UK government. Crunchbase is a global online platform to discover industry trends, investments, and news about companies worldwide, used to confirm that the startup did not exceed a \$1 million valuation, in addition to having a business model that is repeatable and scalable. The Company House platform gives free access to information regarding all the officially registered companies within the UK, thereby providing information about the original founders, their nationality, a cross-check of the startups' registered address, and confirmed that the startup is still active and operational.

We collect the primary data of the London startup entrepreneurs, through structured telephone interviews. We use probability sampling on the sample frame created from Crunchbase and the Company House platform. The final sample size was determined by the number of successful interviews recorded within 100 interview attempts. This was due to time constraints. We base the interview questions on the literature review.

To avoid several kinds of bias, we performed two relatively unstructured interviews first to determine a broader problem area, in addition to determining which factors might need further in-depth investigation. After the two unstructured interviews, we cold-called 100 addresses requesting interview appointments, the outcome of which represents the total sample size of twelve in-depth interviews. The findings of the two unstructured interviews were solely to improve the construction of the questions for the structured interviews, and not included in the analyses.

Analysis

Quantitative data analyses

This section illustrates the most important findings of the ecosystem ranking generated using normalized values. We discuss the overall ranking, followed by findings on the London alternative ecosystems within each of the ten themes.

Table 1: Adjusted Top Ecosystems based on Normalized Values

Nº	Original Ecosystem Ranking EDCi - 2016	Nº	Tailored Ecosystem Ranking	Total Sum
1	London	1	London	13.541
2	Stockholm	2	Stockholm	11.473
3	Amsterdam	3	Helsinki	11.246
4	Helsinki	4	Amsterdam	11.202
5	Paris	5	Paris	11.026
6	Berlin	6	Dublin	11.01
7	Copenhagen	7	Copenhagen	10.647
8	Dublin	8	Berlin	10.619
9	Barcelona	9	Tallinn	9.756
10	Vienna	10	Barcelona	9.384

Grey=Considered Alternatives to the London Ecosystem

Analysis of London Alternative Ecosystems by Theme

A make a closer examination of the London, Amsterdam, Berlin, Dublin and Paris ecosystem at the general theme level. This should provide more insights into the construction of the final ranking. We make further improvements to the ranking to establish the most likely scenario. Finally, we analyze and discuss the PCA computations.

Figure 3 Here

Access to Capital was a continuous factor brought up within the interviews of London entrepreneurs, and justified by the availability of Early-Stage Funding and Business Angel Investment having the maximum weight possible. No results went against the former expectations. However, all 3 location determinant factors within the Access to Capital theme were subject to winzORIZATION, where originally London had over 3.2 times the amount of Early-Stage Funding capital as Amsterdam.

Despite four ecosystems having a normalization value of 1 for Early-Stage Funding, the Berlin, London and Paris ecosystem each had to impair their true value to be comparable along the same scale. The same is true for the Crowdfunding factor, where the Berlin, London and Paris ecosystem are now identical to the value of the Stockholm ecosystem through winzORIZATION. Despite there being no direct alternative to adjust for this issue, it is important to mention.

Figure 4 here

Within the Entrepreneurial Culture theme, we measure the Uncertainty Avoidance location determinant by the percentage of people who disagreed with the statement: “One should not start a business if there is a risk it might fail”. Most surprising was the fact that Dublin was the leading European ecosystem, with 71.5% of its population regarded as risk seekers instead of risk averse. The population’s willingness to take risk was thereby far above that of any other competing ecosystem, with Berlin coming in last with just 46.8%.

The number of newly registered corporations (per 1,000 working-age people) was highest for the London ecosystem, followed by that of Dublin. Again, we did not anticipate the fact that the Dublin ecosystem ranks second out of the considered ecosystems. Also, surprising here, was the low score for the Paris and Berlin ecosystems.

Figure 5 here

The Amsterdam ecosystem has the most Networking Events per year, closely followed by the Berlin ecosystem. The ranking regarding the Networking Event factor, with a high weight, was unexpected, especially with London scoring low in relative terms compared to other ecosystems. Again, despite London having more Networking Events compared to any other ecosystem in absolute terms, standardization of the data makes it comparable. We measure Mentor Assistance by the number of Business Angles present at a national level. Once more, the Dublin ecosystem achieved the highest ranking in Europe.

Figure 6 here

A good visual representation indicates that all 5 ecosystems have a good representation of Access to (tertiary) Graduates among their city population, yet they all performed rather weak regarding their availability of enough Support Employees. This location determinant factor was also subject to winzORIZATION. The Labor Costs however, was most cost-friendly in the Berlin ecosystem where the average startup employee costs around €38,000 per annum, and the most expensive in the Amsterdam ecosystem, where the same service could cost around €45,000 per annum. Berlin was the worst when it came to their English Language Skills, with just under half the city being able to communicate in English (46%) compared to more than 90% of people in Amsterdam. Finally, the Amsterdam ecosystem also unexpectedly achieved the highest ranking out of the alternative ecosystems for entrepreneurial Education and Training.

Figure 7 here

Of the Business Climate theme, the Ease of Doing Business was the highest weight of all location determinant factors. The London ecosystem scored highest in the ranking, followed by that of Paris. With regards to the Cost of Office Space, London and Paris scored the lowest in Europe, given the high cost per square meter per year. In London, the Cost of Office Space costs above €1,400 per year, but was winzORIZED to match that of Paris at €682 per year. Taxation Cost, illustrates that Dublin has the lowest corporate tax rates with 12.5%. Both the Paris and Berlin ecosystem are located at the other end of the spectrum with corporate tax rates of 33% and 31.5% respectively.

Figure 8 here

The Internet Download/Upload Speed was the most important location determinant factor within the Access to Raw Materials theme with the highest weight. Measured at the city level, the Berlin ecosystem scored poorly for this factor, whereas the Paris ecosystem had the fastest internet speed. In addition, Paris charged relatively little for the provision of internet compared to other ecosystems, with Dublin the most expensive, charging on average close to €50,00 per month for an internet subscription. The Mobile Internet/Upload Speed however was by far the fastest in the Amsterdam ecosystem, with preparations for a 5G-network in the very near future. Finally, the Availability of Fiber Internet is the number of fiber-to-home/office internet subscriptions; with standardized data. The London ecosystem performed the worst in Europe for this location determinant factor, where the Amsterdam ecosystem was slightly better than its alternatives.

Figure 9 here

The Quality of Universities was the last location determinant factor that was subject to winzoration due to the London ecosystem. This was because London has 5 universities which are within the best 200 research institutions of the world, whereas the majority of the 60 European ecosystems did not have any. The Amsterdam and Dublin ecosystem both shared the lowest place among the alternatives with 2 research institutions in the top 200.

Figure 10 here

The Digital Market Size represents the aggregate revenues in the e-commerce national market. As we measure this location factor at the national level, the UK in its entirety had the largest online Digital Market Size, followed by Germany with the Berlin ecosystem. Surprising is the fact that the Dublin ecosystem, and thereby Ireland, has one of the lowest Digital Markets of Europe. However, for the Size of the Potential Mobile-Based Market, the Dublin ecosystem ranked best among its alternatives.

Figure 11 here

Upon first visualization, one notices the Paris and London ecosystem scoring very low on the Quality of Life location determinant factor. For those reasons, it is important to become familiar with the method of interpretation used for this factor. According to the primary source, Numbeo, Quality of Life measures the cost of living, purchasing power, water and air pollution, crime rates, health care system and traffic. Knowing how this location determinant factor is now comprised, it makes more sense why

the Paris and London ecosystem ranked rather low for this factor. On the other hand, the Amsterdam ecosystem showed the most promising ranking out of all alternative ecosystems.

Figure 12 here

The final theme is Transportation. It is immediately clear that Amsterdam, London and Paris ecosystems each enjoy the presence of their Airport Connectivity. However, this factor has a low weight, in contrast to the other two means of transport. Regarding Commute, the Dublin ecosystem ranked best. At the same time, the Dublin ecosystem ranked the lowest regarding its Train Connectivity, followed by the Berlin ecosystem.

Ecosystem Ranking Adaptations

The ranking in Table 1 is the latest ranking. Apart from the inclusion of the Taxation Cost location determinant factor and its corresponding medium weight, there are no alterations to the original weights of the Index. Nevertheless, the company behind the original Index, Nesta, had as main purpose to assist European startups in the provision of information regarding the positive and negative aspects of European entrepreneurial ecosystems, thereby allowing startups to plan accordingly and help them consider where they may need to dedicate more resources.

However, the target audience for this ranking are not European startups, but London startups to be precise. Therefore, it was not without some justification that we considered the further tailoring of the index to meet the most likely requirements of the London startups. We based these decisions for altering the weights on the expertise of experienced entrepreneurs and extensive academic literature. Therefore, any further weight adjustments will need to have a solid reasoning.

Most of the London entrepreneurs interviewed, expressed some form of concern, either relating to the Access to Capital or to concepts surrounding talent and the Access to the Labor Market. It would therefore only deem appropriate if any adjustments to the weights of location determinant factors would be within either of these two themes. We realized that under the Access to Capital theme, the two most important sources of capital already had the highest weights. The remaining Availability of Crowdfunding location determinant factor is not as popular as the other two sources of financing, and received a medium weight. Thus, if we are to make any further weight adjustments, it would have to be within the Access to the Labor Market theme.

Within this theme, only 3 out of the possible 6 location determinant factors could be subject to weight alterations. These are the Access to Graduates (0.666'), Access to Support Employees (0.333') and the English Language Skills (0.666'). All 3 possible location determinant factors seem eligible to altering their respective weights.

Finally, when relying on intuitive reasoning, we decided that the level of English Language Skills would be a factor that would influence all London startups that would consider relocation to an alternative European ecosystem. This notion does however rely on the careful assumption that all London startups communicate within their organization using the English Language. Consequently, the weight increase of the English Language Skill location determinant factor altered the ranking to produce the newest ranking as seen in Table 2.

Table 2: Tailored Ecosystem Ranking Based on New Weight Allocation

Nº	Prior Ecosystem Ranking	Total Sum		Nº	New Tailored Ecosystem Ranking	Total Sum
1	London	13.541	—	1	London	13.848
2	Stockholm	11.473	—	2	Stockholm	11.756
3	Helsinki	11.246	↑	3	Amsterdam	11.495
4	Amsterdam	11.202	↓	4	Helsinki	11.465
5	Paris	11.026	↑	5	Dublin	11.338
6	Dublin	11.01	↓	6	Paris	11.171
7	Copenhagen	10.647	—	7	Copenhagen	10.9
8	Berlin	10.619	—	8	Berlin	10.735
9	Tallinn	9.756	—	9	Tallinn	9.861
10	Barcelona	9.384	—	10	Barcelona	9.431

Grey=alternatives for London

The weight change for the English Language Skills location determinant factor makes a meaningful alteration to the ecosystem ranking. When considering all the 29 quantifiable location determinant factors based on the thorough reasoning of academic scholars, in addition to the most cited alternative entrepreneurial ecosystems for London startups, the Amsterdam entrepreneurial ecosystem is the most likely outcome. We now provide a brief overview of the computations from the Principal Component Analysis.

Computations from Principal Component Analysis

When working with larger datasets, it is of essential to analyze the suitability of the data by considering the general structure of the suggested indicators, in this case the individual location determinant factors, and to analyze the interrelationships between them. For this reason, we performed a Principle Component Analysis, or PCA.

A PCA reduces the data to emphasize any variations and brings out strong patterns in the data set. Before doing the PCA, we adjust the winzorized values using the min-max normalization equation visualized in Equation 3.1. The result, the normalized data of the 60 ecosystems for the 29 quantifiable location determinant factors, are in the appendix. A box and whisker diagram illustrating the range of each location determinant factor is also in the appendix.

Having the data in normalized units made it possible to compute a correlation matrix, which illustrates the correlation coefficients between the 29 quantifiable location determinant factors. Essentially, this allows each location determinant factor to be correlated with other location determinant factors and measured the statistical relationship between them.

We include several themes in the first principal component, indicating that these themes could possibly combine. However, as the original Index coupled them in this order, which was based on expert insights of entrepreneurs and thorough academic research, and we made no further alterations. Again, this was the result of the small sample size of only 60 ecosystems.

We used a PCA on the location determinant factors that make up the tailored ecosystem index. This provided a better understanding of the interrelationships by the correlation and variance between the 29 location determinant factors. The supported the importance to Access of Capital, in addition to observing that Taxation Cost, as a new location determinant factor.

Finally, due to the small sample size of only 60 ecosystems, we made a validation check using Cronbach’s Alpha which investigated the degree of correlation between the location determinant factors. The Cronbach’s Alpha calculated as (0.712) for the data set, which is slightly higher than the acceptable reliability threshold of (0.7) suggested by Nunnally (1978). This is therefore an acceptable result for the internal consistency.

From the outset and throughout, the analyses discussed in this chapter tailor the original Index to represent the most realistic situation confronted by London startups to date, in their possible search to relocate to another European entrepreneurial ecosystem. By using the underlying normalized values derived from the raw data set, we created a ranking illustrating the top 10 ecosystems in Europe. By further adjusting the ranking to correct for the large presence of UK ecosystems, the ranking resembled a more comparable order to the ranking of the original Index. We made a further alteration by increasing the weight of the English Language Skill location determinant factor. This led to the final ranking order of alternative entrepreneurial ecosystems competing for the London startups as seen in Table 3.

Table 3: Final Ranking London Alternative Ecosystems

Nº	Final Ranking	Total Sum
	London	13.848
1	Amsterdam	11.495
2	Dublin	11.338
3	Paris	11.171
4	Berlin	10.735

After analyzing the composition of each ecosystem per individual theme, and examining the suitability, structure and reliability of the underlying data, this paper supports the order of the final ranking. Thereby, we conclude that the Amsterdam entrepreneurial ecosystem has the best qualifications to attract startups leaving London due to Brexit.

Analysis from the interviews

With the use of qualitative data acquired from the interviews with the London startup entrepreneurs, we dedicate this subsection to obtain a better understanding to which degree London startups are even considering relocation to another entrepreneurial ecosystem, and if so, to which ecosystem they would relocate.

All the registered locations of the startups were within the London metropolitan area, where 9 out of the 12 startups are based within city center limits, and startups 4, 7 & 8 located in the city district of Croydon.

Most of the respondents were the original co-founders with a total representation of 7 persons, followed by 3 respondents being the individual founder of their startup, and finally 2 persons were members of the management team and were part of the startup from the start of the venture.

By chance, it so happened that 6 started their company prior to the Brexit vote in June 2016, and the remaining 6 startups founded hereafter. The analysis of the data showed no pattern difference between the two groups. Table 4 presents the distribution by sector.

Table 4: Operating Sectors of Interviewed London Startups

Startup Operating Sector	Frequency (n)
Blockchain Tech	1
Charity (Platform)	1
Cloud Computing	1
Consumer Electronics	1
CyberTech	1
EdTech	3
Insurance Tech	1
Real Estate Tech	1
Transportation	2
Total	12

Given the formulation of the interview questions, in addition to the responses obtained to several open-ended questions, 5 general themes became apparent. In order of discussion, these are: the general effects of Brexit on each individual startup, the capital effects on startups, the talent effects on startups, (re)location decisions of startups, and finally, the role of family and friends on startups.

Brexit and the London Startup

The type of responses obtained when asking each individual startup their opinion on the Brexit depends on countless factors such as the startup’s core business, their target market, the nationality of their staff and how the company sees its future. To establish any patterns between certain answers was very difficult given the very small sample size. However, there are several interesting findings.

For instance, despite 7 out of 12 entrepreneurs voting against Brexit, four of the remaining five could not vote as they were not from the UK. The same number of entrepreneurs had a positive outlook for their business operations for the coming year when contrasted with the current year.

One entrepreneur, who was against a Brexit yet still had a positive outlook for next year, said that “Brexit is no real concern for my startup operations as the main focus lies on providing an online platform”, thereby implying that it is different compared to providing a physical product regarding possible exports, “[...] and because the platform is only active within the UK”.

Upon asking why the entrepreneur voted against Brexit he mentioned that despite the fact it did not affect his business directly, he did not want the added *uncertainty* that Brexit would create. This startup raised just shy of £ 500.000 at the end of May, 2018. This response provided an interesting insight why entrepreneurs still have positive future outlooks despite Brexit. Nine of the interviewed startups said that they have their main target market in either London or the UK alone, who naturally are less

affected by international economic and political factors than those who are exporting their products or services abroad. This is dependent on whether the UK economy remains strong.

Thinking outside the box, could also help explain, despite the Brexit vote in June of 2016, why especially UK startups nearly doubled the amount of total investment to \$7.5 billion between 2016 and 2017, as financial institutions and venture capitalists are always looking for alternative investments with maximum returns and minimum risk, such as making investments that are least likely to suffer from macro-economic or political effects caused by Brexit, as is the case with larger companies and institutions in the UK.

The London Startup and the Access to Capital

Despite the large increase in the total amount of funding capital for the London ecosystem last year, when asked what the startups biggest concern is regarding Brexit, 4 startups mention the access and availability of capital. It is interesting to note that similar responses came from one startup who said they have a positive outlook for the next business year, from 2 startups who claim to have a neutral outlook to the next year, and one startup claiming a negative outlook the coming year. When compared to the total of 7 entrepreneurs who said to have a positive outlook for the future, these 3 entrepreneurs who say to have a neutral or negative opinion, thereby all mentioning the access to capital as a main cause.

Entrepreneurs stated two reasons why they see the access to capital as a potential problem due to Brexit. The first by an entrepreneur who said that “[...] the individual investors (such as Business Angels) have become more risk averse because of Brexit, [...] and rightfully so”. The entrepreneur, who has already set up 3 startups, then pointed out that in his opinion, where microcredit is less widely available compared to a couple of years before, corporate investing has become a lot more popular among startups nowadays. Whilst analyzing this, one cannot help but consider the very low interest rates within the UK and the EU which are mainly present due to the continuation of the Bank of England (BoE) and European Central Bank (ECB) bond purchasing (or Quantitative Easing) program set in place. This process could also be a possible reason why corporate investing has become a more popular alternative for London startups looking to raise venture capital.

One of the interviewed startups mentioned receiving a loan from the European Investment Bank (EIB) to help with the experimentation to implement Blockchain technology in education. The co-founder of this startup pointed out that “many UK startups before us have received funding help from the EIB” and that “a funding gap will be created if the EIB decides to withdraw future funds from the UK because of Brexit”. If the assumption of the entrepreneur is indeed correct, the probability will increase that more UK startups will be competing for the same financing opportunities once the UK officially leaves the EU in October 31st, 2019. However, due to the nature of his startup and the positive impact that it could have on the education sector, the co-founder remained optimistic about the future operations of his startup.

The London Startup and The Retention of Talent

Despite the location determinant factor theme, Access to the Labor Market, and contrary to previous beliefs about how the UK Visa system will affect the availability and access of foreign talent post-Brexit, the interviewees indicated that it was the retention of foreign talent which worried the London entrepreneurs. In total, 4 (co-)founders mentioned either the Visa system, the access to talent or the retention of talent as one of their major concerns post-Brexit.

One Bulgarian entrepreneur co-founded a startup in London where 8 out of 10 employees were also from Bulgaria. The retention of his staff was therefore the single most important concern resulting from the Brexit uncertainty. Whilst also serving foreign markets, the startup team made the decision in mid-2016 to open a European office in Sofia, Bulgaria, to deal with the uncertainty present during and after the official Brexit next year. The co-founder mentioned that his startup is operating in the Cloud Computing industry and that it requires a skillful team of IT programmers to keep the platform up and running. He additionally stated that “[...] it’s not just the (IT) skills I need, I also need a feeling of trust with my staff and a friendly atmosphere within the team”. He felt that the retention of staff has many more benefits than simply the tasks they fulfil, and that especially within a small company, the overall atmosphere and collaboration is very important. The latter is not easy in case of letting current employees and trying to find suitable replacements. Besides the costs, finding new talent also takes time.

As the new, extended, official Brexit date approaches, more information is known about guaranteeing the rights for EU nationals in the UK and vice versa. One consolation for London startups currently employing EU talent will be that the settled status will grant EU nationals (and their family), who have spent 5 years in the UK, the same rights as UK citizens after Brexit. However, as startups are relatively young companies, the question remains if this limit of 5 years will suffice to retain their staff.

The London Startup and Relocation Decisions

When asking the London entrepreneurs if they considered initially developing the company in any alternative ecosystem beside London, 5 out of 12 confirmed that they did. Interestingly, each of the 5 mentioned alternative entrepreneurial ecosystems where the entrepreneurs previously resided, for either work, personal or educational reasons. The logic behind considering these alternative locations supports the findings provided by Dahl & Sorenson (2009), who state that entrepreneurs locate in regions where they can leverage social capital. Three of the five named alternative ecosystems which the startup founders considered for setting up the company, are in Europe.

To discover if the interviewed startups would consider relocation to any other entrepreneurial ecosystem, we ask 2 questions, namely, did the startup consider relocating its HQ due to Brexit, and, did the startup (consider to) set up another office outside the UK? In response to the former question, 3 out of 12 startups considered relocating its HQ outside of the UK.

One startup already relocated to Barcelona earlier this year. The remaining 2 startups left it at solely a consideration, and thereby did not (yet) consider relocating the HQ. These same 2 startups were part of 6 startups that said to have opened, or will open, an office outside the UK.

Out of those 6 startups, 1 opened an office before Brexit in 2015, 3 opened an office following the Brexit vote in the second half of 2016, and 2 are looking to open an office in 2019. Surprisingly, none of the locations are among the London alternative ecosystems considered in this paper. In addition, all but one of these (re)location alternatives are places where the founders have previous ties and an existing network, again supporting the theory of leveraging social capital by Dahl & Sorenson (2009).

The London Startup and The Proximity to Family & Friends

The final theme discussed based on the interview results are the entrepreneurial views towards the proximity of family and friends in relocation decision making. We do this to understand how the only qualitative location determinant factor influences a startup location decision.

During the interviews, one of the last questions asked was whether the effect of relocation on family and friends ever played a role in the decision making of the London entrepreneur. The structure of this

question was rather general in the hope to gain an array of different insights. On the contrary, most answers followed a more business reasoning approach, despite hoping to gain several personal insights. However, 8 out of the 12 interviewed entrepreneurs mentioned that they did indeed at some point consider the effects that relocation would have on their family and friends.

We asked those who answered with “yes”, to elaborate. Interestingly, 6 out of 7 entrepreneurs who either relocated the London HQ abroad or to set up an office outside the UK, answered with “yes”, thereby acknowledging that proximity to family and friends played a factor in the relocation decision making. The 5 entrepreneurs who answered with “no” justified their answers saying that “relocation decisions are purely tied to business reasons” or “the decisions are based on what’s best for the company first”. However, despite the overgeneralization of the question and the lack of more personal insights, each location decision will at some point in time encounter a moment where the value of social capital comes into play. The only question is exactly how much it weighs in comparison to the economic factors in making (re)location decisions.

It was expected that startups with younger founders would weigh the availability of social capital provided by family and friends a lot less when compared to senior founders who could have families of their own, and thereby have to consider a whole set of other factors such as the employability of the partner and the schooling of possible children. However, as a possible consequence of the small sample size, in addition to the question having a very personal element thereby restricting further insights, we found no support for this assumption.

Answering of the Second Sub Question

Despite the small sample size, we have some interesting findings from the interviews with the London entrepreneurs. The aim of this section was to find and analyze common themes mentioned within the interviews, and to see if they could assist in the answering of the respective sub-question.

We argue that because of the definition of the startup, most London startups have financial restrictions to consider relocation alternatives. In addition, acknowledging that most of the interviewed entrepreneurs voted against a Brexit yet more than half had positive outlooks for their future startup operations within the UK, it raised the essential question of whether the London startup would even consider a possible relocation.

For 11 out of the 12 interviewed startups, their online presence is the core means of their business operations where they deliver online services and solutions rather than physical products. Therefore, they state that they have less to lose from the economic and political constraints likely caused by Brexit, as compared to companies that physically export their products outside the UK.

Equally as important was the fear of access to qualified foreign talent post-Brexit. However, after careful analysis of the interviews, it was rather the retention of foreign talent and not the access to foreign talent which worried the London entrepreneurs most. Despite these uncertainties, the UK government announced its settled status for EU nationals who have spent 5 years living in the UK. The outlook for the pre-settled status for those living in the UK for less than 5 years is not positive. Nevertheless, this resolution is not destined for foreign talent coming from outside the EU, and thus translates to the corresponding uncertainties once more regarding talent acquisition and retention.

Finally, 6 startups have located, or will locate, an office outside the UK. In addition, 1 startup already relocated its HQ to Barcelona. The alternative locations in the interviews were not any of the alternative entrepreneurial ecosystems considered by this paper. In fact, only 3 of the 6 locations for the (new) offices are within Europe.

Furthermore, there is support for the theory of leveraging social capital by Dahl & Sorenson (2009), where 6 out of 7 startups have either relocated their HQ or opened an office outside the UK to locations where the founder had previous ties and an existing network. The same number of entrepreneurs also acknowledged that proximity to family and friends played a factor in the (re)location decision making of the new HQ or office outside the UK.

Conclusion

Startups are, as the word suggests, newly established small firms that are at the start of their company lifecycle, where most have not even developed a market outside their home ecosystem, let alone outside their home country. Glued to the city of London by their family and/or friends, most London startups do not have the time nor the financial means to even consider possible relocation to another European ecosystem. Based on our interviews with London startups we believe that the value of their social capital simply outweighs that of the possible economic benefits derived of relocating to a London alternative ecosystem.

For those London startups that are indifferent to staying or relocating, we expect that they will first consider the options of setting up a European office before relocating their entire HQ abroad. Even for the small proportion of London startups who think about relocating their HQ, chances are that they will consider relocating to an ecosystem where the founder has a previous history, either private, educational, or work related, or simply has a well-established network in the area.

In addition, Brexit has created much uncertainty regarding the access and retention of qualified foreign talent for UK startups. However, the UK government initially countered with legal measures to ensure that EU citizens in the UK will continue to enjoy their EU rights if they apply and obtain a new status before Brexit on October 31st, 2019. Whether the current administration will respect those rights is unclear during the of writing this paper.

To conclude, this paper takes both a theoretical perspective to rank European ecosystems on quantifiable concepts of entrepreneurship, as well as a practical angle through interviews with London startups. The aim of this multi method approach was to enable the most accurate indication of the likelihood of London startups relocating to another entrepreneurial ecosystem due to the Brexit.

For the reasons above, this paper concludes that there is a low probability of London startups relocating to another entrepreneurial ecosystem due to Brexit. For those few London startups that do, their relocation decisions will likely be based on the value of their social capital rather than the ranking of the alternative qualified entrepreneurial ecosystems analyzed in this paper.

Limitations and Recommendations

First and foremost, we researched over a period that should have ended by now. At the start of this research, the Brexit deadline was March 31st. The uncertainty only grows with extensions to the period due to the lack of consensus on a deal. The seven-month extension and prorogation events of Brexit literally have placed entrepreneurs in a state of limbo. The expected economic impact as recently leaked out in Operation Yellow Hammer (BBC, 2019) is immense. One of the key points was that “some businesses will cease trading”. Also, the number of medium and large-scale businesses that have moved

their headquarters to Europe since the start of this research has increased dramatically. This too will have an impact on the London ecosystem.

The sample size regarding the number of conducted interviews with the London entrepreneurs is small, certainly in comparison to the number of analyzed European entrepreneurial ecosystems. In addition, we only managed to include interviews with the entrepreneurs of London startups that are *remainers* or still on the fence. We need additional interviews with entrepreneurs who have made the decision to leave. This would provide a broader view than the analyses based on only the remainers.

Upon analyzing these results, it became clear that the London startup does not possess the necessary resources to go through an entire relocation process to an entrepreneurial ecosystem outside the UK. However, it would be very interesting to see how the current Brexit situation affects the London scaleup. A scaleup has more financial resources at its disposal and possibly a larger amount of staff, which could therefore make their location decision making process more complex. The recent number of larger companies moving their headquarters and even their factory locations out of the UK supports this.

Combining the insights of the interviews with the 3 startups that were active in the EdTech industry, in addition to numerous secondary sources, a drop of international student applications due to Brexit as well as the increasing price of tertiary education in the UK, indicate that there could be a future shortage of foreign graduates. Regarding the possible post-Brexit scenario for London, and despite this paper not providing stronger evidence, we believe that Brexit will have a larger negative impact on the London ecosystem in the long-run. More specifically, upon careful analysis of the entrepreneurial interviews, it is likely that the London ecosystem will indeed suffer from access to qualified foreign talent in the future.

References

- Atomico Report. (2017). The State of European Tech 2017. In Association with Slush. Source: <https://2017.stateofeuropeantech.com>
- Audretsch et al. (2004). University Spillovers and New Firm Location. Discussion Papers on Entrepreneurship, Growth and Public Policy. Max-Planck-Institut für Ökonomik.
- Balderton Capital. (2016). The European Talent Landscape 2016: Health of the Continent. Source: https://talent.balderton.com/European_Tech_Talent_Landscape.pdf
- Bartik, T. (1985). Business Location Decisions in the United States: Estimates of the Effects of Unionization, Taxes, and Other Characteristics of States. *Journal of Business & Economic Statistics*, Vol. 3, No. 1. Sources: DOI: 10.2307/1391685
- BBC News (2019) Brexit: Operation Yellowhammer no-deal document published. Retrieved from: <https://www.bbc.com/news/uk-politics-49670123>
- BBC News (2016). Brexit: UK to leave single market, says Theresa May. Politics. Brexit. Article BBC Political Editor: Kuenssberg, L. Source: www.bbc.com/news/uk-politics-38641208
- Begley, T. M., & Boyd, D. P. (1987). Psychological Characteristics Associated with Performance in Entrepreneurial Firms and Smaller Businesses. *Journal of Business Venturing*, Vol. 2, No. 1, Pp. 79–93.
- Blank, S. (2010). What's A Startup? First Principles. Blog Steve Blank at WordPress.com. Source: <https://steveblank.com/2010/01/25/whats-a-startup-first-principles/>
- Boyle, M. R. (1988). Corporate Headquarters as Economic Development Targets. *Economic Development Review*, Vol.6, No. 1, Pp. 50–56. Source: <https://search.proquest.com/openview/8577b3be01e5185ce60d575a5b2f6b51/>
- Buhr, H., & Owen-Smith, J. (2010). Networks as Institutional Support: Law Firm and Venture Capitalist Relations and Regional Diversity in High-Technology IPOs. In Wesley D. S., Robert J. D. (ed.) *Institutions and Entrepreneurship (Research in the Sociology of Work)* Vol. 21, Pp. 95-126.
- Business Insider UK. (2016). Germany is Writing to UK Startups to Try and Persuade Them to Move to Berlin after Brexit. Tech. Article Price, R. Source: <http://uk.businessinsider.com/brexit-germany-politician-cornelia-yzer-writing-london-startups-relocate-berlin-tech-soampli-2016-8>
- Čalopa, K. M., Lalić M., & Horvat, M. (2014). Analysis of Financing Sources for Start-up Companies. *Management*, Vol. 19, No. 2, Pp. 19-44.
- Carlton, D. W. (1979). "Why new firms locate where they do: An economic model". In W. C. Wheaton (Ed.), *Interregional movements and regional growth*. Washington: Urban Institute.
- Carlton, D. W. (1983). The location and employment choices of new firms: An econometric model with discrete and continuous endogenous variables. *Review of Economics and Statistics*, Vol. 65, No. 3, Pp. 440-449.
- Carn, N. G., & Rabiński, J. (1991). Selecting Industrial Locations, Sites. *National Real Estate Investor*, Vol. 33, No. 24, Pp.28–29.
- Chambers, R. L. (1986). Outlier robust finite population estimation. *Journal of the American Statistical Association*, 81(396):1063–1069.
- Chang, S.J. (2004). Venture Capital Financing, Strategic Alliances, and the Initial Public Offering of Internet Startups. *Journal of Business Venturing* Vol. 19, No. 5, Pp. 721–741.
- Christaller, W. (1966). *Central Places in Southern Germany*. Prentice-Hall, Englewood Cliffs, New Jersey.
- Coalition for a Digital Economy (2016). Life After Brexit: From the Coadec Community. Article Dennys, R. Source: www.coadec.com/news/life-after-brexit-from-the-coadec-community/

- Conti, A., Thursby, M., & Rothaermel, T. F. (2013). Show Me the Right Stuff: Signals for High-Tech Startups. Wiley Periodicals, Inc. Georgia Institute of Technology, Atlanta, Georgia. *Journal of Economics & Management Strategy*, Vol. 22, No. 2, Pp. 341–364.
- Dahl, M. S. & Sorenson, O. (2007). Home Sweet Home? Entrepreneurs' Location Choices and the Performance of Their Ventures. DRUID Aalborg & Yale School of Management.
- Dealroom.co. (2018). UK Tech Companies Defied Brexit and Doubled the Amount of Capital Raised in 2017 to €7.5 billion. Wijngaarde, Y. Source: <https://blog.dealroom.co/?s=brexit>
- Deloitte (2018). Corporate Tax Rates 2018. International Tax. Updates February 2018. Source: www2.deloitte.com/content/dam/Deloitte/global/Documents/Tax/dttl-tax-corporate-tax-rates.pdf
- Denis, D. J. (2004). Entrepreneurial Finance: An Overview of the Issues and Evidence. *Journal of Corporate Finance*, Vol. 10, No. 2, Pp. 301–326. Source: ISSN 0929-1199
- European Commission (2016). Digital Economy and Society Index. The Department of the Digital Single Market. Source: http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=15724
- European Commission (2017). Digital Economy and Society Index. The Department of the Digital Single Market. Source: http://ec.europa.eu/newsroom/document.cfm?doc_id=43048
- European Digital Forum (2016). The 2016 Startup Nation Scoreboard: How European Union Countries are Improving Policy Frameworks and Developing Powerful Ecosystems for Entrepreneurs. The Startup Manifesto Policy Tracker Crowdsourcing Community. Source: www.lisboncouncil.net//index.php?option=com_downloads&id=1236
- European Startup Initiative (2016). Startup Heatmap Europe. In Association with Allianz Cultural Foundation. Source: www.startupheatmap.eu/assets/pdf/report_startupheatmap_europe_publish.pdf
- European Startup Initiative. (2017). Startup Heatmap Europe. In Association with Allianz Cultural Foundation. Source: www.startupheatmap.eu/assets/pdf/startups-heatmap-europe_2017_executive-summary.pdf
- Evans, P., & Wurster, T. (1999). *Blown to Bits: How the New Economics of Information Transforms Strategy*. Harvard Business School Press, Boston.
- Farre-Mensa, J., Hegde, D., & Ljungqvist, A. (2016). *Do Patents Facilitate Entrepreneurs' Access to Venture Capital?* Harvard Business School Press, Boston.
- Felce, D., & Perry, J. (1995). Quality of life: Its definition and Measurement. *Research in Developmental Disabilities*. Vol. 16, No. 1, pp. 51-74.
- Figueiredo, O., Guimaraes, P., & Woodward, D. (2002). Homefield Advantage: Location Decisions of Portuguese Entrepreneurs. *Journal of Urban Economics*, Vol, 52, pp. 341–361.
- Financial Times (2019) retrieved from: <https://www.ft.com/content/cb298576-3116-11e9-8744-e7016697f225>
- Financial Times. (2017). Brexit - UK Work Permits at Heart of Brexit Immigration Plan. Article Parker, G., & Warrell, H. Source: www.ft.com/content/031d6ae6-dbf2-11e6-9d7c-be108f1c1dce
- Financial Times. (2017). Emmanuel Macron Thinks Big in Vision for French Tech Unicorns. Article Agnew, H. Source: www.ft.com/content/61c5f20a-81a8-11e7-a4ce-15b2513cb3ff
- Financial Times. (2017). Number of UK Start-Ups Rises to New Record. Starting a Business. Article Bounds, A. Source: www.ft.com/content/cb56d86c-88d6-11e7-afd2-74b8ecd34d3b
- Financial Times. (2017). Sharp Drop in EU Job Applicants to UK Tech Industry. UK Unemployment. Article Ram, A. Source: www.ft.com/content/8360ed4a-7116-11e7-aca6-c6bd07df1a3c
- Financial Times. (2017). Station F provides Paris with Global Start-Up Platform. Article Agnew, H. & Murgia, M. Source: www.ft.com/content/aac9d22e-dbd0-11e6-9d7c-be108f1c1dce
- Glaeser, E. L., Kerr, W. R., & Ponzetto, G. A. M. (2009). Clusters of Entrepreneurship. *Journal of Urban Economics*, Vol. 67(1), pp. 150-168.
- Gompers, P. A., Lerner, J., Scharfstein, D., & Kovner, A. (2010). Performance Persistence in Entrepreneurship and Venture Capital. *Journal of Financial Economics*, Vol. 96(1), Pp. 18–32.

- Guardian (2015). London's Diversity is One of the Strongest Attributes of its Tech Ecosystem. Media & Tech Network. Article Gallardo, H. C. Source: www.theguardian.com/media-network/2015/jun/22/london-diversity-tech-ecosystem-entrepreneurs
- Guardian (2017). The Government Will Need to Help Startups with Brexit Costs. Guardian Small Business Network. Article Haque, F. Source: www.theguardian.com/small-business-network/2017/jun/05/startups-need-government-support-brexit-costs
- Guardian (2018). European Cities Hope to Attract UK Entrepreneurs After Brexit Vote. Media & Tech Network. Digital Business. Article Bearne, S. Source: www.theguardian.com/media-network/2017/jan/11/european-cities-attract-uk-entrepreneurs-brexit
- Guardian (2018). Eurostar to Launch London-Amsterdam Direct Service in April. Eurostar. Article Smithers R. Source: www.theguardian.com/business/2018/feb/09/eurostar-to-launch-london-amsterdam-direct-service-in-april
- Hagel, J., & Singer, M. (1999). *Net Worth: Shaping Markets When Customers Make the Rules*. Harvard Business School Press, Boston.
- Haider, D. (1998). *Business Location, Taxes, and Property Taxes*. J.L. Kellogg Graduate School of Management. Northwestern University, Evanston, Illinois.
- Harding, C. F. (1989). Location Choices for Research Labs: A Case Study Approach. *Economic Development Quarterly*, Vol. 3(1), pp. 223–234. Source: ISSN 0891-2424
- Hofstede, G. (1980). *Culture's Consequences: International Differences in Work-Related Values*. Sage, Beverly Hills, California. Source: ISBN: 0-8039-1306-0
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and Organizations: Software of the Mind*. McGraw-Hill Education. 3rd ed. Source: ISBN: 978-0-07-166418-9
- House of Commons (2017). Statistics on UK-EU Trade. British Parliament. Source: <http://researchbriefings.files.parliament.uk/documents/CBP-7851/CBP-7851.pdf>
- Inc.com (2017). Research Suggests Brexit Has Had Little Impact on U.K. Companies. Article Henry, Z. Retrieved from: www.inc.com/zoe-henry/forget-brexit-uk-startup-investment-rises.html
- Isard, W. (1948). Some Locational Factors in the Iron and Steel Industry since the Early Nineteenth Century. *Journal of Political Economy*, Vol. 56 (3), pp.203-217.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47, 263-291.
- Kahneman, D. and Tversky, A. (1982). Variants of uncertainty. *Cognition*, 11, pp. 143-157. [https://doi.org/10.1016/0010-0277\(82\)90023-3](https://doi.org/10.1016/0010-0277(82)90023-3)
- Kirzner, I. M. (1973). *Competition and Entrepreneurship*. University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship. University of Chicago Press.
- Kritikos, S. A. (2014). Entrepreneurs and Their Impact on Jobs and Economic Growth. Institute for the Study of Labor (IZA), World of Labor. Pages 1-10. University of Potsdam, Germany.
- Losch, A. (1954). *The Economics of Location*. Yale University Press, New Haven. Connecticut.
- Love, L. L., & Crompton, J. L. (1999). The Role of Quality of Life in Business (Re)Location Decisions. *Journal of Business Research*, Vol. 44, pp. 211–222.
- Magnani, G. and Zucchella, A. (2018) Uncertainty in Entrepreneurship and Management Studies: A Systematic Literature Review. *International Journal of Business and Management*; Vol. 13(3) pp. 98-133.
- McMullen, J. S., & Shepherd, D. A. (2006). Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. *Academy of Management Review*, 31, 132-152.
- Myers, D. (1987). Internal Monitoring of Quality of Life for Economic Development. *Economic Development Quarterly*, Vol. 1(3). pp. 268–278.

- Nesta Report (2015). European Digital City Index. Produced as part of the European Digital Forum. Source: <https://digitalcityindex.eu/>
- Nesta Report. (2016). European Digital City Index. Produced as part of the European Digital Forum. Source: <https://digitalcityindex.eu/>
- Nesta Report (2015). City Initiatives for Technology, Innovation & Entrepreneurship. CITIE Report 2015 - A resource for City Leadership. Source: http://citie.org/assets/uploads/2015/04/CITIE_Report_2015.pdf
- NRC (2019) Bijna honderd bedrijven naar Nederland vanwege Brexit (Almost one hundred companies come to the Netherlands due to Brexit). Retrieved from: <https://www.nrc.nl/nieuws/2019/08/26/bijna-honderd-bedrijven-naar-nederland-vanwege-brexit-a3971161>
- Ozgenal, E., & Baron, R. A. (2007). Social Sources of Information in Opportunity Recognition: Effects of Mentors, Industry networks, and Professional Forums. *Journal of Business Venturing*, Vol. 22(2), pp. 174-192. Source: ISSN 0883-9026
- Quartz (2017). Emmanuel Macron's New Tech Visa will make France an Unlikely Laboratory for Globalization. Detrixhe, J. Source: <https://qz.com/1016742/emmanuel-macrons-new-tech-visa-is-designed-to-make-france-more-friendly-for-startups-than-the-us-or-uk/>
- Reuters (2017). French Business Creation Surges as Macron Promises 'Start-Up Nation'. Thomas, L. Source: www.reuters.com/article/us-france-business/french-business-creation-surges-as-macron-promises-start-up-nation-idUSKBN1F51M0
- Rogers, E. M., & Larsen, J. K. (1984). *Silicon Valley Fever: Growth of High-Technology*. BasicBooks, New York. Source: <https://trove.nla.gov.au/work/12443462>
- Sarvis, M. J. (1989). What to Look for in a New Office Facility. *Journal of Business Strategy*, Vol.10, pp.10–14.
- Schlesselman, J.J. Data Transformation in Two-Way Analysis of Variance (1973) *Journal of the American Statistical Association*, Vol. 68(342), pp. 369-378. DOI: 10.2307/2284078
- Schmenner, R. (1975). City Taxes and Industry Location. Harvard Business School, Vol. 66, Pp. 528-532.
- Schmenner, R. (1982). Making Business Location Decisions. Prentice-Hall, Englewood Cliffs, New Jersey.
- Schumpeter, A. J. (1911). *Theorie der Wirtschaftlichen Entwicklung. Eine Untersuchung ueber Unternehmergewinn, Kaptial, Kredit, Zins und den Konjunkturzyklus*. Translation from Harvard University Press. (1934). The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle. ISBN 9780674879904
- Shane, S. (2003). *The Individual-Opportunity Nexus Approach to Entrepreneurship*. Elgar, E., Aldershot, United Kingdom. Source: ISSN 1573-0913
- Shane, S. A., & Stuart, T. E. (2002). Organizational Endowments and the Performance of University Start-ups. *Management Science*, Vol. 48(1), pp. 154–170.
- Sorenson, O., & Audia, P. G. (2000). The Social Structure of Entrepreneurial Activity: Geographic Concentration of Footwear Production in the United States, 1940-1989. *American Journal of Sociology*, Vol. 106(2), pp. 424-462.
- Sorenson, O., & Stuart, T. E. (2001). Syndication Networks and the Spatial Distribution of Venture Capital Investments. *American Journal of Sociology*, Vol. 106(6), pp. 1546-1588.
- Sorenson, O., & Stuart, T. E. (2003). The Geography of Opportunity: Spatial Heterogeneity in Founding Rates and the Performance of Biotechnology Firms. *Research Policy*, Vol. 32, pp. 229–253.
- Startup Europe Partnership (2017). Scaleup Europe: A 4000+ Fast Growing Ecosystem. Scaleup Europe Monitor 2017. Source: <https://startupeuropepartnership.eu/scaleup-europe-monitor2017/>
- Startup Genome (2015). Global Startup Ecosystem Report 2015. Startup Genome LLC, Oakland, California. Source: <http://reports.startupgenome.com/reports/GlobalStartupEcosystemReport2015.pdf>
- Startup Genome (2017). Global Startup Ecosystem Report 2017. Startup Genome LLC, Oakland, California. Source: <https://startupgenome.com/thank-you-enjoy-reading/>

TechCrunch (2017). UK Faces Triple Whammy from Skills Shortfall, Visa Restrictions and Brexit Uncertainty. Article Butcher, M. Source: <https://techcrunch.com/2017/02/21/uk-faces-triple-whammy-from-skills-shortfall-visa-restrictions-and-brexit-uncertainty/>

Telegraph (2016). UK's Leading Tech Start-Up Role 'At Risk from Brexit'. Business. Article Gosden, E. Source: www.telegraph.co.uk/business/2016/12/05/uks-leading-tech-start-up-role-risk-brexit/

Woodward, D., Figueiredo, O., & Guimaraes, P. (2006). Beyond the Silicon Valley: University R&D and High-Technology Location. *Journal of Urban Economics*, Vol. 60(1), pp 15-32. ISSN 0094-1190

Yong, A. (2019) Boris Johnson's dramatic immigration u-turn City University London. Retrieved from: <https://www.city.ac.uk/news/2019/septtember/boris-johnsons-dramatic-immigration-u-turn>