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The entrepreneur's perspective on crowdfunding as an equity access mechanism

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

7 November 2016

Abstract

Until recently equity funding access has been exclusively available to a select few. Among those excluded are entrepreneurs who have the potential of impacting the growth of an economy. This study explores the emerging equity crowdfunding phenomenon using mechanism design theory to understand if and how it can be used to fill the funding gap experienced by entrepreneurs.

The study is both exploratory and descriptive in nature. A mixed research design method was followed. In particular, a convergent parallel design, where qualitative and quantitative samples collected independently were merged during the results and analysis stages.

Findings reveal that equity crowdfunding improves the fund raising component of investments in private markets. A more diverse number of participants are engaging in these platforms than initially envisaged and using them for purposes other than what they were initially designed. Automated screening, performance reporting, mentorship, mergers and acquisitions, funding companies in developing countries are some of the different uses emerging. Strong headways are being made on accounting support and administration and communication for increased value add that investors can make, supporting the developments on the legal front as well.

Keywords

Equity crowdfunding, mechanisms design, early stage firm development, alternative equity

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Joy Mabuza

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Signature

7 November 2016

Date

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1 Chapter One: Definition of Problem and Purpose

1.1 Introduction

Not too long ago, South Africa (SA) was among those countries that received global attention because many global investors believed that the African market may yet be the next frontier with regards to investment opportunities (Babarinde, 2012). However, the Gross Domestic Product (GDP) growth rate in SA has since declined from about 3.2% in 2011, after recovering from the global economic crisis, to a measly 1.3% in 2015 (StatsSA, 2016). Coupled with this, despite these macroeconomic challenges, South Africa is seen as the beacon of hope for the continent. South Africa still outperforms most other African economies due to relatively high scores across the dimensions that reflect the South African economy as more developed than any other African economy (Ernst & Young, 2016a).

Given these negative economic outcomes, this chapter introduces this research by looking at why investment contribution is important to a country's economic growth. This is followed by an outlay of the types investments an economy needs and the options available and then articulates the business problem in terms of gaps that equity crowdfunding could fill.

1.2 Background

Miles, Scott, & Breedon (2012) note that countries with relatively high levels of investment have concomitantly high levels of GDP per capita. The World Economic Forum (2014) notes that some developed countries like the United Kingdom (UK) and the United States (US) sit with GDP per capita levels of 39,567 and 53,101 respectively. China and South Africa's GDP per capita, on the other hand, hovers in the regions of 6,747 and 6,621 respectively.

The World Bank has even shown that, over time, investment is pro-cyclical and much more volatile than GDP. Jordaan (2013) points out that this is because firms are confident to invest more when economic growth is strong. Investment is also a substantial proportion of overall spending in developed economies where it typically accounts for a quarter of GDP. In some developing nations like China however, at some point, it was as high as 40% (Ayres, 1998).

As a proxy variable to economic activity, the stock markets positively affect the real economy (Sariannidis, Koskosas, Kartalis, & Konteos, 2009); Sariannidis, 2010; Nyasha & Odhiambo, 2015). To be more specific, Joachim (2015) has found that there is "no evidence of a positive correlation between real earnings growth of large-cap stocks and real GDP per capita growth across countries..." but that "…other factors…" which include entrepreneurial activities "…play an important role for real earnings growth". Research conducted in India also indicates that a

change in venture capital investment, for example, can affect GDP by as much as 21% (Khan, 2012).

In South Africa, Small to Medium Sized Enterprises (SMEs) are expected to resolve issues of job creation, sustainable economic growth, equitable distribution of income and the overall stimulation of economic development (FinScope, 2010). It is estimated that as high as 91% of the formal business entities in SA are SMEs while more than 95% of enterprises across the world are SMEs and these SMEs account for approximately 60% of private sector employment (Edinburgh Group, 2014). Accordingly, small firm contribution to employment and GDP is a large determinant of economic growth. Ley & Weaven (2011) suggest, therefore that the survival of innovative startups and the provision of startup capital is therefore important to academics and practitioners.

Schwienbacher & Larralde (2010) list the sources of capital available to entrepreneurs. These are identified in Table 1, below.

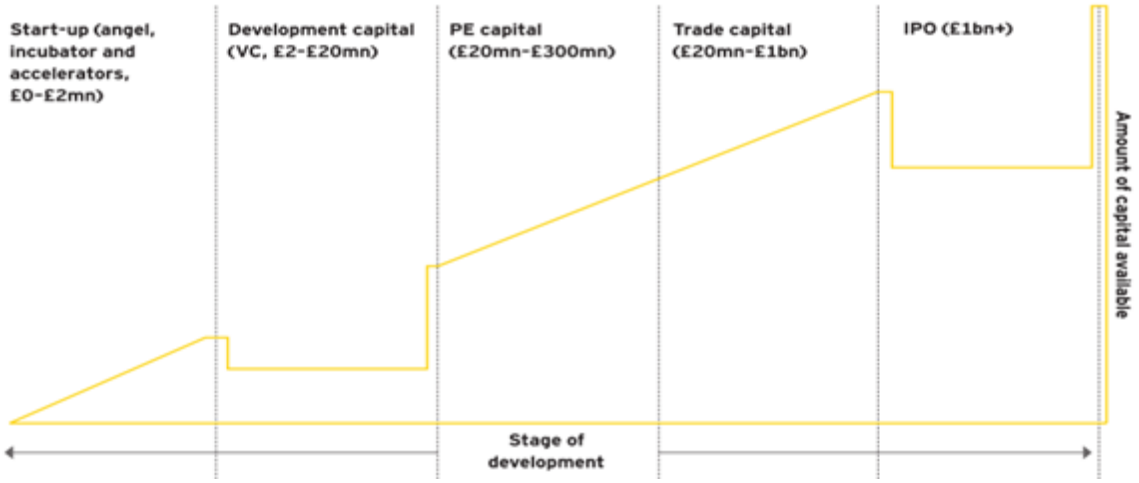
Table 1. Sources of Funding

Investor		**Description**
Equity	Entrepreneur and team members	The entrepreneur invests his own money in the company, or money he obtained through a personal loan
	Friends and family	The entrepreneurs' friends and family
	Business angels	Wealthy individuals willing to invest in small projects
	Venture capitalists (VCs)	Specialized investors gathering money from non specialists and placing it into bigger projects for a period of 5-7 years
	Other companies/ strategic investors	Other companies can decide to invest in projects they believe have strategic importance to them
	Stock markets	Members of the public invest in the company through a public offering
Debt	Banks	Loans
	Leasing companies	Provide equipment and office space to entrepreneurs against lease payments
	Government agencies	Subsidy for particular projects
	Customers/ suppliers	Examples include trade credit
	Bootstrapping	Use of trade credit, credit card and other methods, including working capital management

Source: Schwienbacher and Laarralde (2010)

The graph below indicates how more capital becomes available as the stage of development of an entity increases. Figures from UK are used to illustrate.

Figure 1. Capital Available in the UK Market at Different Stages of Development



Source: Ernst & Young (2014b)

It is important to note that while investment is a substantial proportion of overall spending in developed economies the sources of such investment capital are diverse. Table 2, below, shows the split of investment sources across a number of Group of Twenty (G20) countries. It can be noted that US has the most number angel investments followed by the UK while angel investors are non-existent in other countries. When looking at South Africa, compared to the other countries, it can be seen that it has had proportionally more initial public offerings (IPOs) than quite a few of the other countries. This leads us to the business problem.

Table 2. National breakdown of SME investment in some G20 Countries

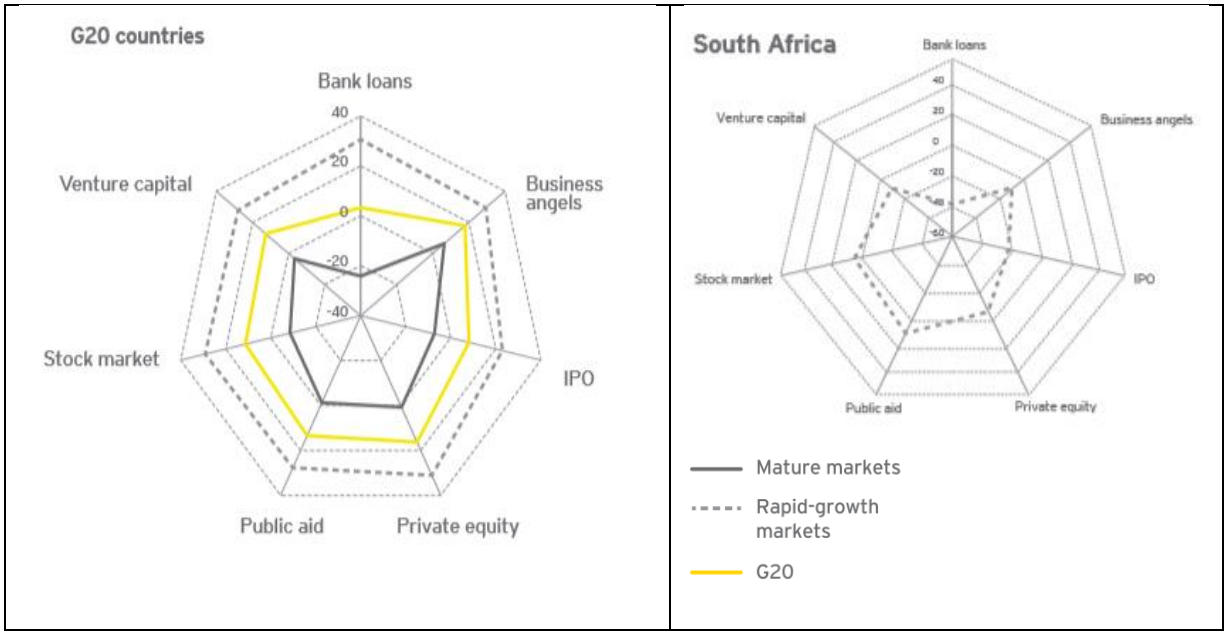
Country (US$b)	Canada	China	Japan	Russia	Soudi Arabia	South Africa	South Korea	United Kingdom	Unites States
Bank Lending	0.82	365.35	27.44	2.65	7.69	1.33	13.83	10.22	23.89
IPOs	0.20	10.8	1.97	0.01	0.42	0.67	3.44	7.86	48.60
VC	1.23	4.27	0.09	0.15	0.01	0.02	0.27	2.15	23.79
Angel Investment	-	-	-	-	-	-	-	0.09	20.1

source: Ernst & Young (2013)

1.3 The Business Problem

An even closer look at South Africa (Figure 2, below) reveals that in terms of availability, public aid is viewed to have increased, followed by stock markets, then private equity and venture capital then business angels. This implies that in South Africa, more later stage capital is perceived to be available compared to early stage (Ernst & Young, 2013). There is agreement that in SA and countries limited access to startup capital is the greatest challenge to entrepreneurship development (Portmann & Mlambo, 2013, Golić, 2014).

Figure 2. Access to Funding - South Africa Compared to G20 countries



Source: Ernst & Young (2013)

Below we look at some of the reasons entrepreneurs would experience a shortage of capital:

- *Debt Finance*. Entrepreneurs do not have the needed collateral nor stable cash flows to ensure regular interest payments and so do not obtain debt finance (Schwienbacher & Larralde, 2010).
- *Venture Capital*. Firstly, entrepreneurs do not qualify for venture capital because they cannot scale fast enough, nor do they have the potential for a large enough exit payout. Secondly, there are too few VCs versus the masses of entrepreneurs who need money. These organisations lie between a stage of potential failure or success (Tomczak & Brem, 2013).
- *Angel Funding*. Angel funding may have outweighed VC funding as a source of finance in the US. However, access has been decreasing since the financial crisis of 2008. In 2011 it was reported that less than three percent of thousands of entrepreneurs actually seeking funding from angel investors do get it (Tomczak & Brem, 2013). Also, inference may not be made to developing economies, which may well be without the prerequisite pool of angel investors (Jones & Mlambo, 2013; Ernst & Young, 2013).
- *Family and Friends*. Friends and family finance may be unavailable or insufficient, and amounts required are too small (Tomczak & Brem, 2013).

Enter equity crowdfunding. In its infancy, equity crowdfunding is an emerging alternative source of finance for new ventures. It is an innovative, online source of start-up equity financing, representing a new potential pool of capital by connecting entrepreneurs and

investors through the Internet. It allows entrepreneurs to collect funds by "open invitation" to finance their projects/ventures and thus openly raise the necessary funds by relatively small contributions of a relatively large number of investors (Ley & Weaven, 2011).

1.4 Research Question

In an attempt to solve the problem stated, it is expected that crowdfunding platforms can play a major role in reducing the funding gap experienced by start-ups and SMEs (Borello, De Crescenzo, & Pichler, 2015) and the fast uptake of this alternative nascent funding mechanism (Golić, 2014) is inevitable. The main question that arises is: “what aspects of equity crowdfunding are more suitable to an entrepreneur?”.

1.5 Conclusion

The results of this research are necessary for the contribution towards the development of this budding alternate funding mechanism. Outcomes should highlight aspects that need to be nurtured or developed further for a robust funding structure to fill the gaps that currently exist.

1.6 Outline of the Document

Chapter One of this research document, the background to the research, was presented together with the rationale for the research, and the research problem which this research attempts to answer. Chapter Two will review the literature. Research questions will be presented in Chapter Three. Chapter Four will look at the research methodology and design. The results of the research will be presented in Chapter five and discussed on Chapter Six. Chapter Seven will present the conclusion to this research

2 Chapter Two: Literature Review

2.1 Introduction

This chapter defines the argument in this research. For this it looks at the following:

1. The theory base to identify aspects of a suitable funding mechanism for entrepreneurs
2. What the literature has found about current funding mechanisms
3. Whether crowdfunding can be designed to have the aspects required to be suitable for entrepreneurs

2.2 Theory Base

2.2.1 Mechanism Design Theory

Maskin (2008) describes mechanism design as the engineering side of economic theory. Instead of focusing on the existing institutions to generate outcomes, the theory suggests beginning by "identifying our desired outcome" and then asking "whether or not an appropriate mechanism could be designed to attain that goal. If the answer is yes, then we want to know what form that mechanism might take". Mechanism design theory is not in favour of, or opposed to, one system or the other. Instead it recognizes limitation in a system (Klein, Daza, & Mead, 2013a). Myerson says, at its root mechanism design is "about communication and incentives to share information that other people need for decisions" (Klein, Daza, & Mead, 2013b:501).

These concerns were not always central to economic theory. A brief history of the origins of the nobel prize winning mechanism design theory illustrates (Myerson, 2008). Allocative efficiency has taken a journey which can be described briefly as follows:

1. A classic economic problem of people's ability to satisfy their desires is constrained by limited resources.
2. Analysis of incentives began when economic theorists began to analyze optimal decisions of rational individuals as a tool for understanding supply and demand in price theory
3. Models were formulated for analyzing competitive decisions laying the foundation for game theory
4. Price theory could show under some conditions that free markets will achieve allocative efficiency. This did not apply to socialist command economies.
5. What was overlooked was communication in market systems
6. This included the incentive to communicate information and the concept of incentive incompatibility

7. Given the information, preferences, and resources that people have, different games and many different mechanisms (this is the revelation principle).

The set of incentive compatible mechanisms, satisfy certain incentive constraints, which express the fact that individuals will not share private information or exert hidden efforts without appropriate incentives. This explains many failures of allocative efficiency which can be observed in the world. This framework of economic analysis includes incentive efficiency (over and above allocative efficiency) for evaluating rules by which resources are allocated.

Elements of Mechanisms Design. Assessing a good social institution, requires knowing how it performs in its communication and coordination role. A rational equilibrium occurs when there is an incentive to share information honestly on one hand. The alternative is referred to as adverse selection. This is the problem of getting people to share information honestly. On the other hand, people choose hidden actions and exert efforts that are hard for others to monitor and yet people are incentivized to act obediently to the social plan. The problem of getting people to act obediently is called a moral hazard. A trustworthy mediator makes it possible for these social coordination plans to occur.

2.2.2 Relevance to the Research Problem

In following guidance from the theory,

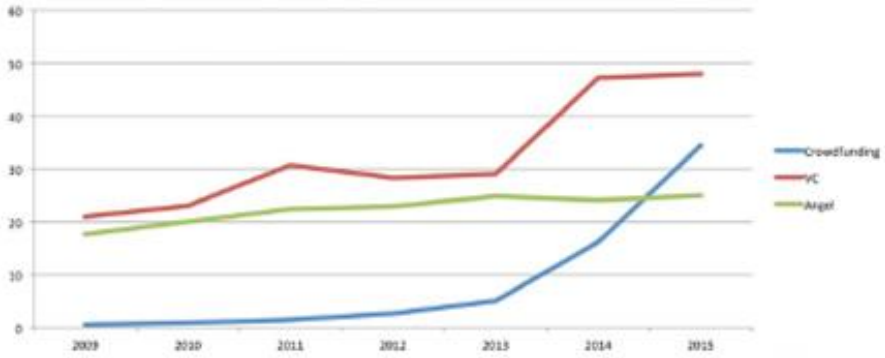
1. Identifying the desired outcome. At this point it is clear that the desired outcome is to have the crowdfunding mechanism confirmed as a feasible solution for entrepreneur's funding challenges of equity funding.
2. Can equity crowdfunding be designed as an appropriate funding mechanism be designed for Entrepreneurs? This is done by looking at current funding mechanisms and the things that make them work.
3. What form will the mechanism take? This is possibly a combination of the positive aspects of the other currently available mechanisms.

2.3 Equity Crowdfunding Mechanism as the Desired Outcome

2.3.1 Growth in Crowdfunding

Crowdfunding has quickly become a popular avenue of funding for investment, seed money and start-up funding. Almost $1.5 billion was raised in over 1 million crowdfunding campaigns in 2011. This sum was projected to double for 2012 (Tomczak & Brem, 2013). By 2015, this figure was reported to be about $35 billion (Fleming & Sorenson, 2016). Barnett (2015) highlights the trajectory of other equity investment vehicles, with special focus on all crowdfunding, venture capital and angel funding can be seen below.

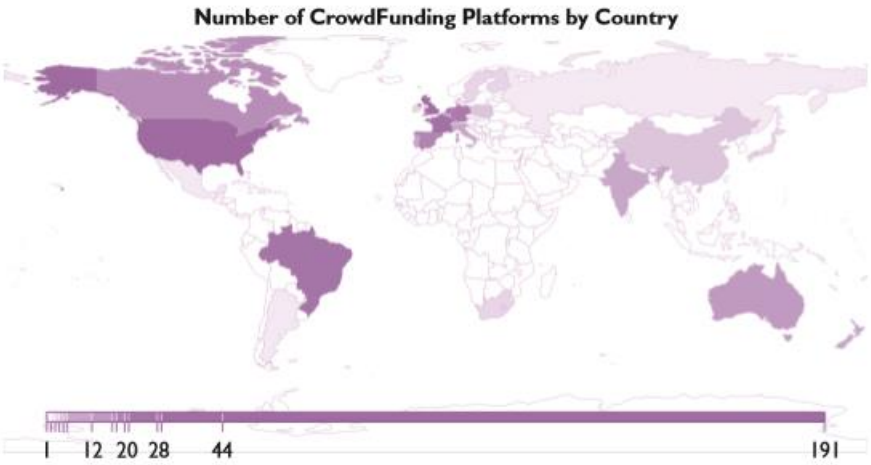
Figure 3. Annual Funding (Billions): VC vs Crowdfunding vs Angel



Source: Barnett (2015)

The idea of raising money from the crowd is not new. For example, 1400 Australian investors raised $5000 each to produce the blockbuster movie, Crocodile Dundee. However, what is new is the platforms that exist to facilitate such campaigns (see Figure 4. Number of Platforms by Country) and bringing to fruition popular products and services that might otherwise have never come into existence, such as the Pebble SmartWatch (Fleming & Sorenson, 2016).

Figure 4. Number of Platforms by Country



Source: Fleming and Sorenson (2016)

Crowdfunding platforms are classified according to what they offer in exchange for the funds that they receive: equity, debt, some sort of reward, or nothing but the satisfaction of doing good or helping someone realize a dream (charity). Figure 5 illustrates the value created by each of the types of platforms.

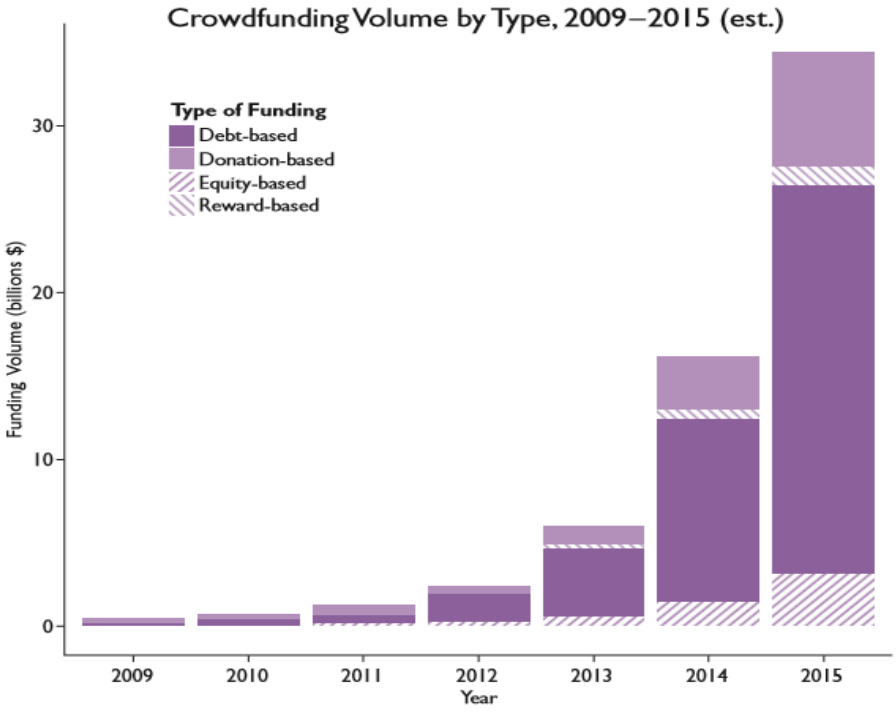
Figure 5. Crowdfunding and Value Creation

Social Value \ Economic Value	Low	High
Low	Reward	Equity
High	Donation	Debt

Source: Gruyter (2015)

Given that the focus of this report is looking at raising equity capital to create economic value, we focus on equity funding. David Swensen, head of the Investment Office at Yale university, had an investment philosophy which describes the choice of equities over debt. He believed that "*equities are a claim to on a real income stream of income, as opposed to contractual sequence of nominal cash flows*" (Lerner, Hardymon and Leamon, 2012:36). Figure 6 gives a feel of the volumes raised through the different types of platforms.

Figure 6. Crowdfunding Volume by Type



Source: Fleming and Sorenson (2016)

Barnett (2015) believes that equity crowdfunding could reach $36 billion by 2020. The main cause being that crowdfunding platforms can scale, depending on their model. VCs cannot

scale. Furthermore, the reason equity funding has not grown at the same rate includes Regulation Crowdfunding in the US which only came into effect in May 2016. It imposed requirements such as the maximum amount ($1m) that can be raised over a 12-month period, through a funding portal, with a maximum amount of sales that can be made by any investor, and the information that must be filled to Security Exchange Commission (SEC) and made available to investors. Europe is the centre of equity crowdfunding mainly because in the US it was not allowed on a national basis (although some US States already permit it). In Europe it is allowed under a 2010 European Union (EU) directive; with a patchwork of rules emerging (e.g., the upper limit of funds is €1 million in France, compared with €5 million in the United Kingdom). No incidents of fraud have been reported. Instead, Seedrs, one of the largest and most successful equity crowdfunding platforms in the UK, has expanded its reach beyond Europe and has now entered the US in anticipation of a robust US equity crowdfunding market. (Afterman, 2016).

2.3.2 Desired Outcome

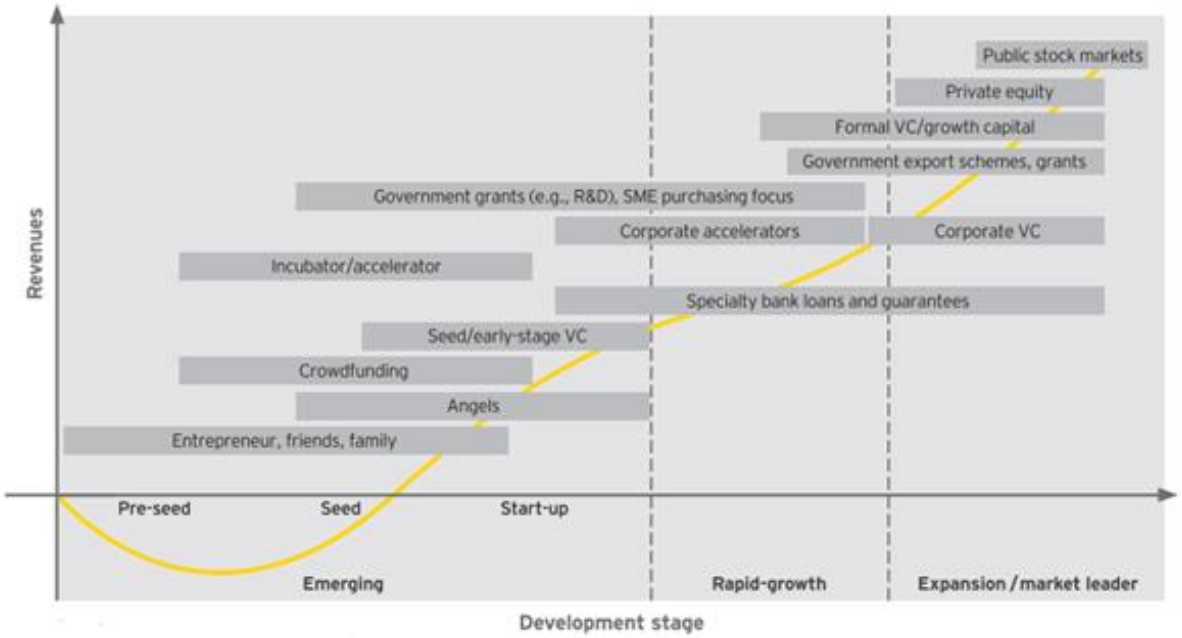
The intention of the study was to look at solutions for entrepreneurship in South Africa. However, given the lack of exclusively equity based platforms in South Africa (which include: startme.co.za, jumpstarter.co.za; Thandafund; Crowdinvest; Jumpstart Africa), the study will go beyond the borders of South Africa but hopes to bring the results back so that relevant learnings can be applied. The intention still being equity crowdfunding mechanisms confirmed as are the viable solutions to entrepreneur's funding challenges of equity funding.

2.4 Equity Crowdfunding as an appropriate Funding Mechanism for Entrepreneurs

2.4.1 Business Lifecycle Perspective

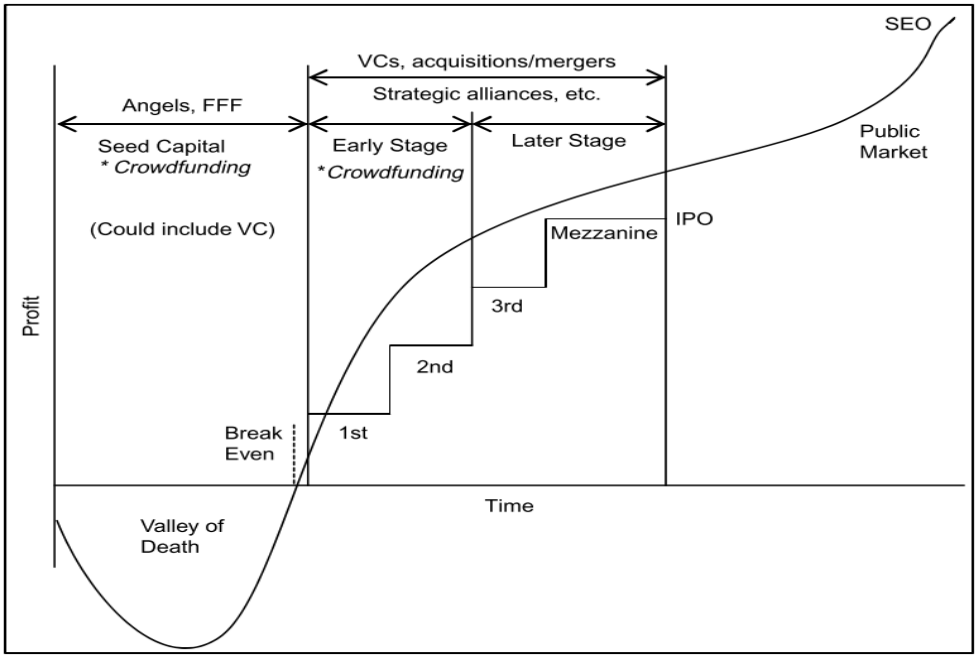
Tomczak and Brem (2013) and Ernst & Young (2014) provide a business lifecycle view of the current funding landscape to illustrate options available for raising capital (*Figure 7* and Figure 8) and the gap that crowdfunding can fill.

Figure 7. Guide on Funding Based on Revenue and Development Stages



Source: Ernst & Young (2014)

Figure 8. Landscape of Equity Access in Capital Markets



Source: Tomczak and Brem (2013)

As Tomczak and Brem (2013) put it, passing the Valley of Death is a critical step. Figure 4 and 5 both illustrate that this is where crowdfunding is useful because it allows for the survival of businesses that would otherwise not have a chance. Beyond the breakeven point, other options start to emerge, they include private equity and the public market.

2.4.2 Private vs Public Markets Perspective

Two mediators currently exist for raising funds. They are the public markets and private markets. Due to its ability to raise funds like in public markets, the paper will argue that the equity crowdfunding characteristics (or elements of mechanism design) resemble that of public markets. This perspective is prompted by the openness of the platform explores the similarities that equity crowdfunding has to the public market. To begin, we first take a step back and examine these the private and public mechanisms of raising funds.

2.4.2.1 Public Markets Mechanism

As of January 2006, the New York Stock Exchange (NYSE) reported that US publicly traded companies represented approximately $18 trillion in total equity value, while the private equity markets are measured in hundreds of billions (Moon, 2006).

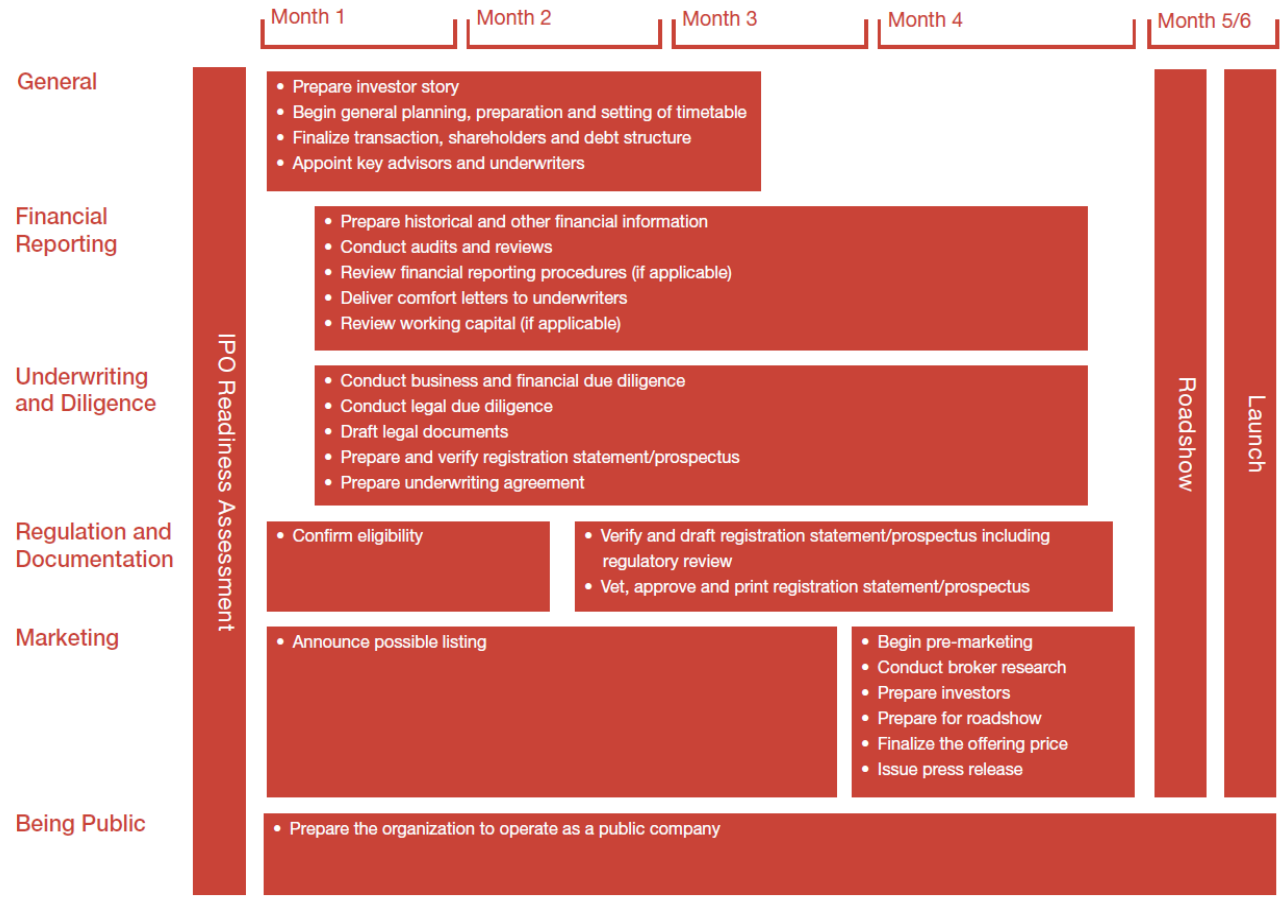
a) Listing

Initial public offerings can represent an important milestone of financial success for the company, its shareholders, and often the executives themselves. (Moon, 2006) Furthermore, business and markets have become increasingly *global* and as such, one can choose which exchange to use, with the choice of domestic, one of the larger international exchanges or dual locations.

b) Listing Requirements

Exchanges have initial listing requirements. These range from financial information corporate governance and internal controls. The process takes about five to six months. Then, there are ongoing financial reporting requirements as well. (PWC, 2012b)

Figure 9. Initial Public Offering (IPO) Process



source: PWC (2012b)

c) Intermediation Costs

Costs are for compliance and investor relations efforts (Moon, 2006). They are for going public and for being public. The type of costs are (PWC, 2012a):

- *Underwriter's discount*, which is about 5% to 7% of gross proceeds;
- *Legal*, which are from securities counsel to draft the registration statement and provide other advice directly related to the offering;
- *External auditor*, an independent registered public accounting firm directly related to the offering. They offer issuance of the comfort letter, review of the registration statement, and other advice directly related to the offering;
- *Financial reporting advisor*, for preparing of the pro forma financial statements, drafting of management's discussion and analysis and other items included within the registration statement, and help in addressing comments from the SEC;
- *Printing*, which includes document management, SEC filing, printing and distribution expenses;
- *Registration/other*, which are registration-related fees and expenses (SEC, state, rating agency); and

- *Exchange listing fees*, which include fees paid to the New York Stock Exchange (NYSE) or NASDAQ for stock listing services. There are differences between the two primary exchanges in the US, fees are based on number of shares outstanding and range from $125,000 to $250,000 for initial listing and from $35,000 to $500,000 for annual listing fees.

d) Trading

Naseer and Tariq (2015) critically review literature on Efficient Market Hypothesis (EMH). The EMH theory submits that security prices that prevail at any time in market should be an unbiased reflection of all currently available information and return earned is consistent with their perceived risk. As a result, efficient market prices adjust rapidly to the arrival of new information.

The underlying assumptions of the Capital Asset Pricing Model (CAPM) are that: this market represents all theoretically possible set of investors, who can at any time, at relatively low cost, access the highly efficient, highly liquid public markets to fund large enough companies who it is believed by being public are financially flexible and credible in the eyes of customers, suppliers and employees. (Moon, 2006)

2.4.2.2 Private Markets Perspective

Although the sums invested are low compared to public market (above), the returns are more attractive. For the period 2007 to 2015, in an Africa survey by Ernst & Young (2016), compared to the Morgan Stanley Capital International (MSCI) Emerging Markets Index, despite the macro volatility, PE firms delivered value through strategic and operational improvements and the returns were more by 1.7%. The outperformance increased for exits in 2014 and 2015 to 2.6%.

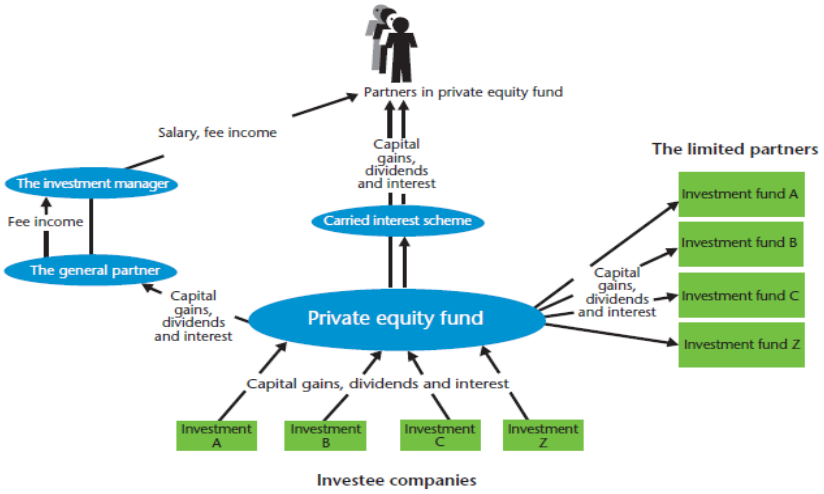
In private equity, most the investments are done by private equity funds. In this context private equity covers seed capital, early stage, later stage, mezzanine, and venture capital as well. Mezzanine finance, a term not described earlier, is used to increase financial leverage of transactions where the lead bankers have no appetite to lend further debt but there is still capacity for long term borrowing. Private equity is a form of an exclusive ‘investment club’ in which the principal investors are: institutional investors such as pension funds, investment funds, endowment funds, insurance companies, banks, family offices/high net worth individuals and funds of funds, as well as the private equity fund managers themselves. Private equity can be characterised by (Gilligan & Wright, 2010):

- Fund raising from investors

- Sourcing investment opportunities and making investments
- Actively managing investments
- Raising capital gains by selling or floating investments

The figure below illustrates.

Figure 10. Structure of a Typical Private Equity Fund



Source: Gilligan and Wright (2010)

Lerner at al. (2012) acknowledge that private equity remains a mystery of its own. They then identify seven common themes that emerge from cases evaluated across private equity in all its forms.

a) Illiquidity

All private equity deals start out as illiquid. Therefore, the commitment becomes that of the long terms and requires active involvement in the affairs of the portfolio company. In the public space, when unhappy with the direction of the company, then first option is to sell that stock. The private equity investor has to, through the terms of the investment directly be involved with management decisions through the board of directors or large active shareholders. Decisions include financing and exiting given that there is no assurance of liquidity and the investor must consider the capability to carry an investment for an indeterminate amount of time. This includes motives behind the fund structure, the alimenting effect of profit sharing (carry) also helps with alignment between limited partners and general partners. (cl., 2012)

b) Uncertainty and information gaps

Valuation of performance is difficult because there is no continuous pricing. The information on portfolio companies is incomplete. The valuation methods are also not suitable for the lack of information. The performance is therefore driven by deal structures, value added activities and through the ability to re-contract. (Lerner et al., 2012)

c) Cyclicality

IPO's, trade sales (the sale of company shares to industrial investors (Gilligan & Wright, 2010)), valuations, fundraising are all cyclical. Furthermore, the funds themselves have long lead times and long gestation period to realisation. Therefore, they have to act at right times, that is, for example, raise money when they can (Lerner et al., 2012). Ernst & Young (2016) also show an example where exits are delayed due to macro uncertainty.

d) Intermediary Certification

Reputation and relationships are useful in limiting information risks. VC firms deal with underwriters and the public markets regularly while the investee firm may only ever have an IPO once in its lifetime. This allows the facilitation of corporate ties. Which have also been abused. PE firm allow debt providers to over-leverage a firm or VC firms push problematic companies into the public market too quickly. (Lerner et al., 2012)

e) Incentives

Private equity funds are generally designed to generate capital profits from the sale of investments rather than income from dividends, fees and interest payments (Gilligan & Wright, 2010). Incentives keep the interest of parties aligned. Given the illiquidity and the information asymmetry, private equity firms need a lot of discretion in pursuing opportunities unforeseen at the time of closing the fund. Management fees and transaction fees were originally designed to cover expenses. However, they have become substantial, which encourages asset gathering and excessively safe investment strategies. (Lerner et al., 2012). Below is a typical fee structure the investor applies.

- The carry is a performance fee (an incentive mechanism) which is usually 20% of the profits, with legal and tax implications (Stefanova, 2012).
- The management fee, which is fixed and viewed as part of the general partner's overall compensation package to cover their expenses irrespective of the performance, are usually about 2% of the fund, have been known to be as low as 1.25% is some Asian regions (Feldmann & McCarthy, 2012).
- Other fees may include transaction fees, however these are all the fees are negotiated for each deal (Gilligan & Wright, 2010).

f) Deal Context

The deal terms can have a significant impact on the outcomes of each deal. This is due to firm specific and time specific environmental attributes that are at play during the deal formation. (Lerner et al., 2012)

g) Quality professionals

Variety of skills including business, finance, consulting and legal are required in the private equity industry. (Lerner et al., 2012)

2.4.2.3 Summary: Public and Private Markets Perspective

Public markets seem to indicate properties of efficient mechanism design. The facilitate the efficient allocation of financial resources, price according to supply and demand and are transparent. They resemble a trustworthy mediator, which is ideal for the entrepreneur. However, as highlighted in the business lifecycle perspective, they are mainly for companies at later stage of development, especially when one looks at the listing requirements.

Private markets do not resemble the characteristics of efficient mechanisms design. It is marred with scarce resources, communication uncertainty and information gaps, illiquidity, and incentive incompatibility. It seems, on the private markets side, there is a lot of effort, in terms of intermediary certification, deal structures, deal terms and contracts, in trying to make up for these inefficiencies. Table 3, below summarises.

Table 3. Characteristics of Private and Public markets

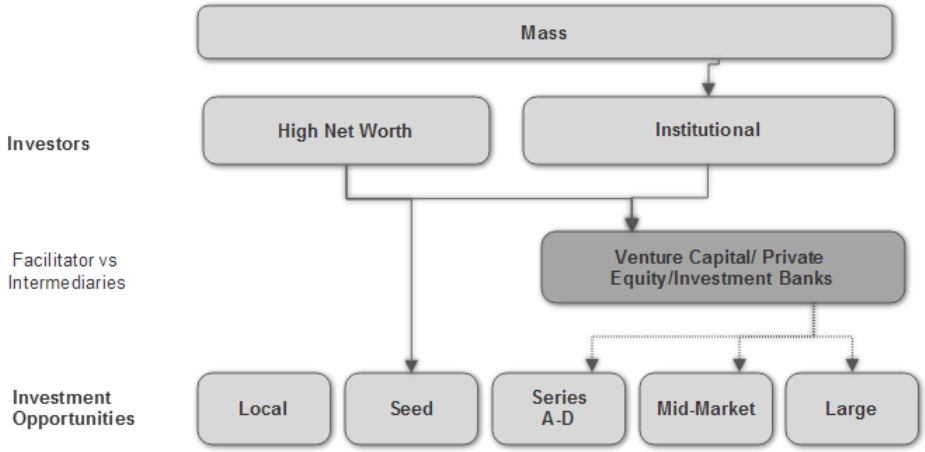
	Private	**Public**
Raise funds from investors.		
Information Gaps	Intermediary Certification Due Diligence Deal Structures Deal Context, Terms and Contracts	Listing requirements
Incentive Compatibility	Incentives Structure	Intermediation Costs
Source investment opportunities and make investments.		
Allocative Efficiency	Networks	Listing
Timing		Min 6 months
Incentive Efficiency	Control taken	Control not taken
Actively manage investments.		
Holding period	Long term, e.g. 3-7yrs	Short term, e.g. 1 day
Returns	Value Add Quality of Professional	Trading
Realise capital gains by selling or floating those investments.		
Exit (Liquidity)	Sell (illiquidity, cyclicality)	Sell (delist-issuer, trade out)

Source: Author

2.4.3 Disintermediation Perspective

The World Economic Forum (WEF) (2015) challenges the traditional models of funding from a disintermediation perspective. The traditional model includes: limited access, timely supply of capital, standardised measurement, loss of control, and potential inadequate funding. Hassan (2010) attributes this to a lack of understanding of the VC market and the lack of an association.

Figure 11. How Financial Institutions Facilitate Capital Raising Activities Today



Source: WEF (2015)

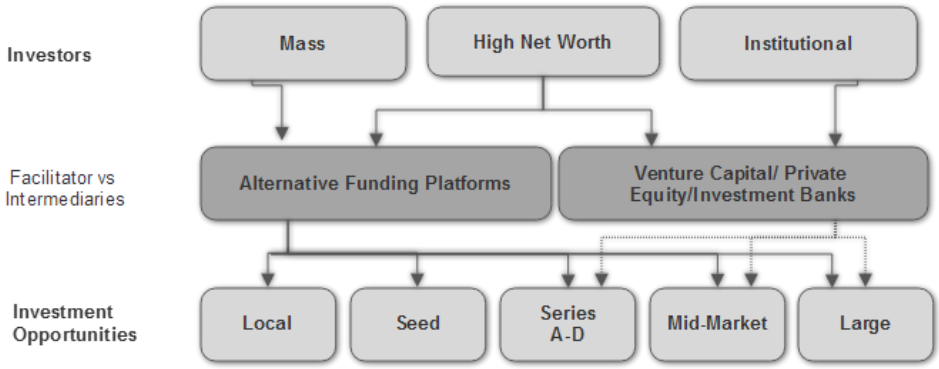
The capital flow decisions begin with the investors. According to Groh and von Liechtenstein (2011), the criteria when selecting VC funds include: the expected deal flow and access to transactions, a VC fund's historic track record, local market experience, the team's experience against the proposed investment strategy, the team's reputation, and the mechanisms proposed to align interest between investors and VC funds.

For the VC or PE to invest in a business, it has to have the following attributes: management that has integrity, skill and a desire for success; a product with a competitive advantage and a good market; and the potential to increase returns for the investor (Jones & Mlambo, 2013). Gompers, Kaplan and Mukharlyamov (2016) found that the PE process of value creation includes, in order of importance: 1) increasing revenue or demand factors, 2) improving incentives, 3) follow-on acquisitions, 4) facilitating a high value exit, 5) improving corporate governance, and 6) purchasing at an attractive price less than the industry. Which on that last point the Boston Consulting Groups (BCG) (2012:5), commented to say "the days when private equity could create value primarily through leverage are long over. Nor can the industry count on creating superior returns through multiple arbitrage, as a result, operational improvement - on both the cost and revenue sides of business - remain the chief source of value…". This is a trend they identified soon after the 2008.

To the negotiation table, issuers could bring resources such as a well-known brand name, strong financials, efficient operations, multiple patents, seasoned management, position in a high growth industry among other (Pearlstein, Townsend, & Brouthers, 2011).

The alternative funding platform introduced through crowdfunding is an alternative not only to seed capital and early stage funding but potentially beyond. It acts as a facilitator that provides an online marketplace for individual investors to discover and invest in businesses and projects. Contractual obligations exist directly between individual investors and investment opportunities (World Economic Forum, 2015). Figure 12 illustrates.

Figure 12. Alternative Funding Platforms



Source: WEF (2015)

According to WEF (2015) crowdfunding, can be characterised by:

- Increased accuracy of overall investment decisions. Insights from the "wisdom of the crowd" will test the business's prospects.
- Increased access for individual investors to directly fund businesses increasing the funding options for businesses and projects.
- Increased control. Individual investors will gain more control over where their investments flow and determine whether they want direct control over investment decisions
- Reduced cost (value). Even though profitability is not clear, the individual investors can participate directly in funding without going through intermediaries.
- Diversified options (volume of capital). Equity or debt can be structured more flexibly to meet funding needs and will offer more diversified incentives to potential investors

Summary: Disintermediation Perspective

The effort in private markets is on returns while in equity crowdfunding, as in public markets, is on access. The mass market can participate in this mechanism; and smaller companies can now also participate in this mechanism.

2.4.4 Complementary Mechanisms Perspective

Moon (2006) argued that the two markets should be seen as complementary to each other. That well-functioning public capital markets are necessary for private markets. Public markets are an important exit. That going public is not a solution for all. However, depending on the conditions that the organisation faces, it should consider going private if:

- Stable free cash flows are good for value-maximizing
- Credibility concerns or companies undergoing rapid change may also benefit
- Companies undergoing difficult periods of transition and financial challenge, circumstances that may prove difficult for public investors to evaluate and monitor
- Doing a significant recapitalization, could be the value-maximizing answer.

Another view pointed out is that financial markets can be imperfect which causes: bubbles; crashes; irrational behaviour; herding behaviour; speculative attacks; and crashes, and that due to the liberalization of the world economy and globalisation, there is now a smooth flow of consumption as well as investment (Sanyal, 2015). The convergence of stock markets is increasing. The traditional role played by stock markets is being challenged due to advances in technology, resulting in integrated, consolidated, merged or allied stock exchanges. Different forms of integration are emerging including combinations of cross boarder deals, cross listing, cross memberships (Dorodnykh, 2013). For emerging markets, this integration could attract capital from other markets. Essentially, the degree of market integration relates to market efficiency, where no one can make abnormal returns consistently, in the long run. The returns should equal the average market return. (Sanyal, Gahan, Coomer, & Gupta, 2015).

Summary: Complementary Mechanisms Perspective

Could one mechanism then be an exit for or from another mechanism? For example, could equity crowdfunding be an exit for angel funding, friends and family, and entrepreneurial personal finance, or vice versa? Which equity funding model is it likely to be an alternative for (supplement)? Could one type of equity crowdfunding platform be an exit for another type, in a different country or market for example? The next section seeks to explore this perspective.

2.4.5 Equity Crowdfunding as a Complementary Mechanism

Alsan and Kumar (2011) looked through time to identify empirical predictions of various models that support going public or private. Then, Valanciene and Jegeleviciute (2013), Décarre and Wetterhag (2014), Ahlers, Cumming, Gunther, and Schweizer (2015), and Donovan (2016), looked at the varying outcomes of equity crowdfunding. Table 4, below,

summarises the discussion that ensues on how these outcomes compare to the outcomes of going private or public.

Table 4. Equity Crowdfunding Against Empirical Predictions of Various Models

	On Going Public		On Going Private		On Going ECF
Benefits/Costs	**IPO Likelihood**	**Post IPO Behaviour**	**Transaction Likelihood**	**Post Transaction Behaviour**	**Outcomes**
Information Production Costs	Larger, older firms		Smaller, Younger firms		a) 1-3years
Investor Recognition	Low visibility firms	Increase size through acquisitions	Low visibility firms		b) PR Effect, Global
Financing investment	Firms with growth options, low internal liquidity, and high borrowing costs	Increase investment and assets	Firms with low investment	No increase in investment	c) Peak in sales/ sales growth one year after campaign
Reduce over-monitoring	Firms with large investment plans	Increase investment	Firms with low investment	No increase in investment	c) asset peak right after campaign
Loss of Confidentiality	High-technology companies less likely to go public				d) ideas and business models can be stolen
Managerial Inefficiency			Low profitability firms	Increase profitability	c)
Free cash Flow Agency Problems			Larger, high cashflow firms	Reduce assets and investment, Increase leverage	c) willingness to pay for product
Facilitate acquisitions	Firms with growth options				c) source for VC funding
Exploit Mispricing	Firms in high market-to-book industries and all firms during stock market booms	No increase in investment	Firms in low market-to-book industries		e) adverse selection vs collective wisdom
Control	Firms with institutional ownership relinquish control		Controlled by individuals and families		f) only internet based, lack of advice
Optimal transfer of control	Firms with concentrated control	Change in control			f) entrepreneur can retain control
Diversification	Firms with volatile earnings	Reduced stake of controlling shareholders			f) positive relationship between retained control and expected earnings
Trading Liquidity	Larger firms		Smaller Firms		h) legal restrictions changing for smaller firms

Source: Adapted from Alsan and Kumar (2011)

a) Newer & Smaller Companies

Statistics from Knowledge Peers (2013) show that 57% of the firms resorting to equity crowdfunding are young SMEs generating revenues since year one *to year three*, 15% are start-ups with no revenue yet, and 28% are established SMEs with revenue generation of 4 to 8 years. In the frame of this report, no established SMEs of more than 8 years of activity used equity crowdfunding (Décarre & Wetterhag, 2014).

b) Low Visibility

Décarre and Wetterhag (2014) found that another common outcome is a Public Relations (PR) effect, which is positively impacted by the number of investors. This confirms that campaigns act as a marketing and promotional tool for firms listed in crowdfunding platforms. Valanciene and Jegeleviciute (2013) add that the benefits extend for communities through both local and global means.

c) Growth Options & Investment Plans

"A main finding is that the firms experience is on average a peak in both sales and sales growth the year after the campaign and that this tends to be positively impacted by a larger number of investors through the campaign" (Décarre & Wetterhag, 2014:6). The improved revenue is aligned with the outcomes of the private equity process identified by Gompers et al. (2016).

Similarly, "assets and asset growth peak, but tend to occur right after the campaign. Profit is on average decreasing the years after the campaign, but with a less negative growth rate than before the campaign. Profit growth is found to be positively impacted by offering a larger equity share and having business angels investing through the campaign respectively, and likewise by having the founders investing in their own firm before the campaign. A similar pattern on financial growth outcomes has been found when comparing the equity crowdfunded firms to firms funded by business angels". (Décarre & Wetterhag, 2014:6)

Mollick and Robb's (2016) findings add by asserting that the willingness to pay for the product is not only an indication of the demand for the product but it could indicate a steady flow of cash into the business, which is a good influencer for attracting VC funding and potential acquisitions which are good options for the company's growth.

d) Disclosure

On their study, Ahlers et al. (2015) found that there is no standard way of presenting financial forecasts to potential investors. If they do decide to present this information, the can add disclaimers to the fact that there is no reasonable basis to forecast future earnings because operations are inherently uncertain.

Donovan's (2016) research support this approach in that they further found "*no relation between historical accounting disclosure and start-up capital obtained from crowdfunding investors, on average. However, the relation between historical accounting disclosure and capital raised is significantly greater for firms that do not disclose non-financial signals, such as patents or venture capital*." In terms of direct management inquiries, the author found that *"…investors rarely request historical accounting information…"* and lastly, the author found a "*positive relation between capital raised and the entrepreneur's long-term forecasts of expected future performance*". This indicates the demand for financial reporting in an unregulated market.

e) Pricing

According to Ahlers et al. (2015), in the equity crowdfunding space there is a problem of adverse selection in entrepreneurial finance.

- Entrepreneurs are assumed to know more about the venture;
- Small investors are less likely to have experience evaluating investment opportunities; and
- Gathering information, monitoring progress and providing input are important in the early stages.

"The usefulness of the crowd in fundraising is supported by Lawton and Marom (2010) stating that the power of crowds lies not only in the ability to access ideas, but also and more importantly in the ability to use the collective wisdom as a means to sort out firms and notice the leading ones – allowing for scalability. This is in line with Yochai Benkler (2006) describing the crowd as a sorting mechanism through a system of peer review. Consequently, in the context of equity crowdfunding, it is believed that the aggregated due diligence performed by the potential investors within the "crowd" can achieve to detect promising business opportunities in which to invest." (Décarre & Wetterhag, 2014:14)

f) Concentrated Control

Ahlers et al. (2015) see the amount of control as a signal of expectations of future cash flows where a high share signals high cash flows expectations relative to current firm value. The thinking behind this is that ownership interest is costly although it can help align the interests of founders and funders.

Valanciene and Jegeleviciute (2013) think that it is one equity crowdfunding's strength is that entrepreneurs keep the rights to make company decisions themselves. However, they also assert that it is a weakness that the advice from investors is lacking as it is only internet based.

g) Liquidity

Even though Ahlers et al. (2015) found no evidence of a relationship between proposed exit channel and absolute funding amount or speed of capital allocation, liquidity is one of the aspect that clearly delineates private and public markets. Evidence is lacking on the confirmation of this delineation.

In terms of legal restrictions, the US has also implemented a revised regulation, Regulation A+, effective on June 19, 2015, designed to facilitate the development of a mini-IPO market for smaller US and Canadian companies to offer their shares publicly without the full responsibilities of Securities Act registration. Tier 2 offerings (allow raises of up to $50m) are perhaps more aptly compared to public offerings registered under the Securities Act. While Tier 1 offerings may ultimately be compared to crowdfunding transactions, but raise up to $20 million publicly without the reporting obligations of Tier 2. “One can imagine private investors pushing companies to engage in Regulation A+ offerings so that they could get liquidity for their existing investments or invest in the offering but have an ability to exit later on”. Likely candidates for this regulation include smaller companies not well served by private markets. (Roe, 2015) For the US, regulation should can then move from being a threat as identified by Valanciene and Jegeleviciute (2013) to now being an opportunity. However, what remains is still the issue of the level of administrative and accounting challenges to enable liquidity (Valanciene & Jegeleviciute, 2013) .

Summary: Equity Crowdfunding as a Complementary Mechanism

The elements described by Alsan and Kumar (2011) tend to agree with the findings from Ernest & Young (2014), Tomczak and Brem (2013), Décarre and Wetterhag (2014) in terms of stage of development and how ease of access is key to SME’s growth. However, disclosure, pricing, control and liquidity combined do not provide a clear indication or answer on whether equity crowdfunding is an efficient equity funding mechanism like the public or is it more like private markets.

2.5 Literature Review Conclusion

In building an appropriate mechanism, a number of perspectives were reviewed. From this review, a couple of key points can be made from research:

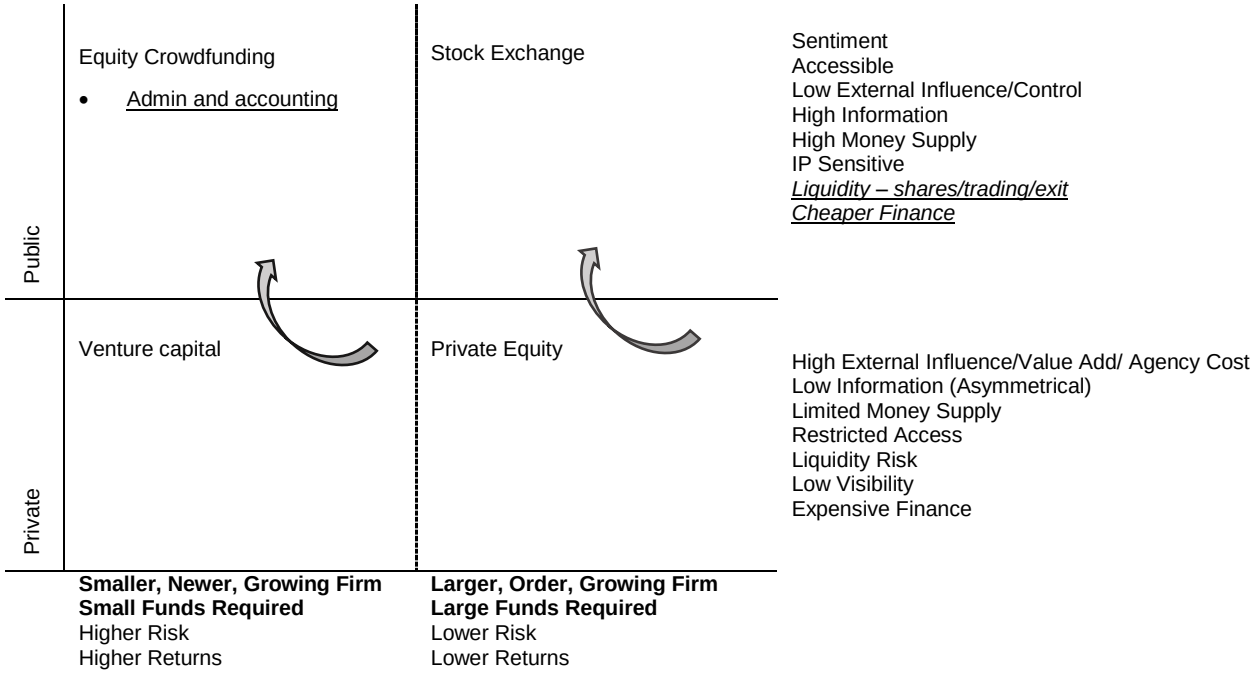
1. The key contribution of the business lifecycle perspective, was that equity crowdfunding is for SME’s where risks are high and returns are high.
2. The public private intermediation perspective showed that public markets are more aligned to a good mechanism design. A lot of effort goes into providing the allure that private markets can be trusted mechanisms.

3. The disintermediation perspective indicates that the key contribution is that equity crowdfunding provides increased access, accuracy, control, volume of funds and reduced costs, similar to public markets.
4. The complementary perspective prompted the question of whether equity crowdfunding could be an exit for or an exit into other funding mechanisms much like public and private markets can be in certain conditions.

This question could not be answered. This is due to the following key observation: There is a lack of conviction on the resolution of accounting and administrative challenges identified that include disclosure, pricing, control and liquidity.

Figure below, depicts these points in a graphical format. It highlights where equity crowdfunding potentially fills the gap. It also shows that it is a plausible public (exit) option for venture capital, which potentially has the same relationship with private markets as the stock exchange public market.

Figure 13. Potential Fit of Equity Crowdfunding in Equity Capital Arena



Source: Author

The above indicates that the equity crowdfunding mechanism comes at a time when entrepreneurs are actually excluded from full economic participation and it can fill this gap.

3 Chapter Three: Research Questions

3.1 Introduction

The title of this research is *"The entrepreneur's perspective on crowdfunding as an equity access mechanism"*. The main research question of this study is *"what aspects of equity crowdfunding are more suitable to an entrepreneur?"* Due to the nascent nature of the mechanism, some of its aspects still require development. Consequently, the literature review of the subject has had to borrow from finance literature to understand some of the characteristics of funding mechanisms, as part of the literature review. Accordingly, theory on two perspectives is limited and the questions that follow are intended to bridge the gap of what is known about existing equity funding mechanisms.

While it is clear where equity crowdfunding fits in in the stages of development for an organisation, some of the aspects that would make it an appealing mechanism for an entrepreneur are not definitive. Based on mechanism design theory, this paper focuses on the following two main questions:

3.2 Research Question 1

Taking a public markets perspective and looking at the elements of mechanism design, equity crowdfunding platforms appear to replicate the outcomes of public (free) markets as they share some of the same characteristics. For example, it is easy to access the platform and be part of the network. These portals appear to perform the communication and coordination role, fulfilling the mechanism design requirements particularly as there appears to be incentives to honestly share information. However, this question has yet to be verified.

Do equity crowdfunding platforms replicate the outcomes of public markets?

To help answer this question, the following sub questions have been identified.

3.2.1 Research Question 1a.

This section hopes to addresses the queries around liquidity and hence asks:

Research Question 1aa: Do the platforms have a share exchange mechanism?

Research Question 1ab: Do the platforms offer an exit strategy?

3.2.2 Research Question 1b.

This section hopes to addresses the queries around accounting support and hence asks:

Research Question 1ba: Is the platform backed by a traditional funding mechanism?

Research Question 1bb: What is the extent of investment support services on the platforms?

3.2.3 Research Question 1c.

From a cost effectiveness perspective, the question can be asked whether it is more suitable for entrepreneurs to access equity capital via these platforms?

Research Question 1c: What cost model is applied and is it cheaper given the disintermediation?

3.2.4 Research Question 1d.

Research Question 1da: What additional value is created by or through the platforms?

Research Question 1db: How long does it take to raise funds?

3.3 Research Question 2

Could one mechanism be an exit for or from another mechanism?

The point of this question is to establish whether Equity Crowdfunding could be a Complementary Mechanism as opposed to a stand-alone funding mechanism. To answer the questions raised above by looking at the deals that have occurred in the past and trends to establish:

Research Question 2a: Which equity funding model is it likely to be an alternative for (supplement)?

Research Question 2b: Could equity crowdfunding be an exit for angel funding, friends and family, and entrepreneurial personal finance, or vice versa?

Research Question 2c: Could one type of equity crowdfunding platform be an exit for another type, in a different country or market for example?

3.4 Conclusion

It is expected that these questions will provide answers to identify the type of market as well as the suitability of the mechanism for entrepreneurs.

4 Chapter Four: Research Methodology

4.1 Introduction

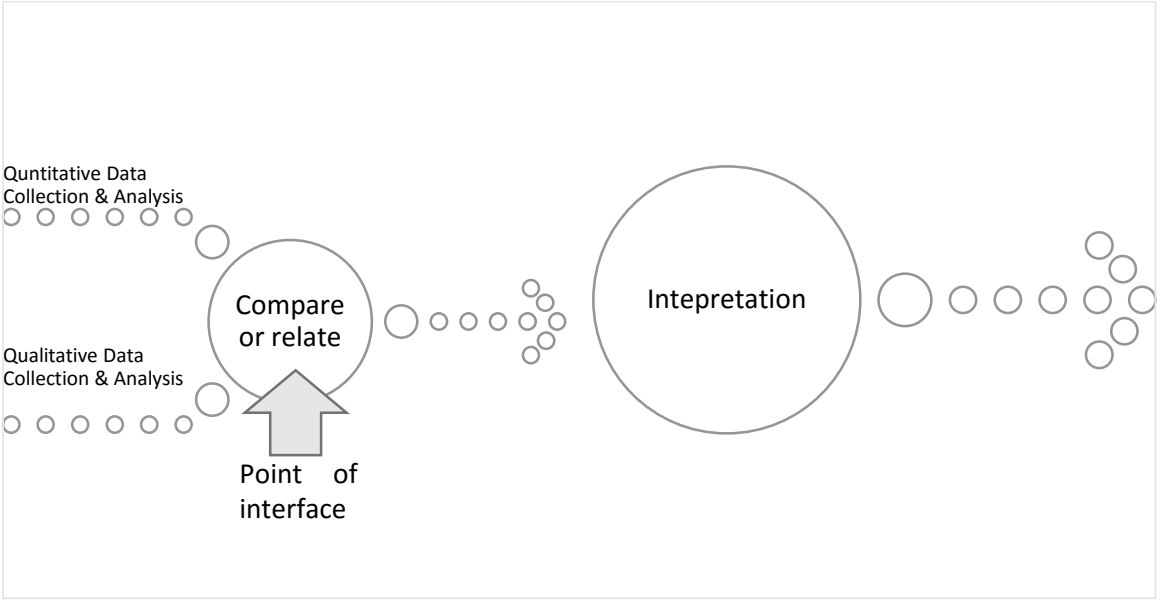
This section covers the research design, population and sampling and the expected limitations of the research design. Work by Saunders and Lewis (2012) is used as a guiding framework.

4.2 Research Design

Given the newness of the area of equity crowdfunding, a mixed method study is conducted. Qualitative and Quantitative methods were used concurrently. According to Creswell and Plano Clark (2011), the combination provides understanding of research problems than either approach alone. To be more specific, a convergent parallel design method is followed whereby different but complementary data is collected. This is expected to contribute to the validity of the research. Below, in Figure 14, is a detailed description of the process to be followed:

1. Collect and analyse two independent strands of quantitative and qualitative data in a single phase.
2. Prioritize the methods equally.
3. Keep the data analysis independent.
4. Mix the results during the overall interpretation.
5. Try to look for convergence, divergence, contradictions, or relationships of two sources of data

Figure 14. Convergent Parallel Design



Source: Creswell and Plano Clark (2011)

The type of data to be collected in looking at the platforms is *qualitative* and *exploratory*. It seeks new insights, ask questions and assess this area in a new light. Where the field of equity

funding is not completely new and the equity funding research is simply taking a new perspective through into this field. A pragmatic philosophy is followed, where the most important determinants of the philosophy adopted are the research questions and objectives.

Given that the platforms have been in existence for a while, historical data is used. This data is both *descriptive* (meaning the research is designed to produce an accurate representation of the situation) and *quantitative* to answer specific research questions, with an aim of fulfilling a positivism philosophy (where structured methods are employed to facilitate replication allowing for law-like generalisation to be made), with an *inductive* approach which involves development of theory as a result of data already collected. (Saunders & Lewis, 2012).

This convergent parallel design approach is similar to that of Décarre and Wetterhag (2014) where data used in their study was collected through both primary and secondary data sources and includes both quantitative and qualitative data from Europe. Ahlers et al. (2015) conducted their study using secondary data, which included 160 companies since 2006 from Australia, with the hope to transfer findings to other regions. Valanciene and Jegeleviciute (2013) applied their research methodology based on the positivism approach. An explanatory research was conducted with attempts to clarify different aspects of crowdfunding and gain more knowledge about the subject. The research methods applied were: a systematic literature review, comparison, induction, SWOT analysis and subjective assessment.

4.3 The Universe

4.3.1 The Population

The population includes all the *platforms to the raise or facilitate the raising of equity capital*. At this point it does not include representation from: government; regulators; and academia.

4.3.2 Unit of Analysis

To determine whether Crowdfunding as an equity access mechanism is a viable funding mechanism, the unit of analysis is *characteristics of equity crowdfunding platforms (also referred to as portals or sites)***.**

4.3.3 Geographic Limits

There are is a limited number of sites across the globe and as a result, this is a global study. Given that the platforms are operated across the globe; it makes sense to investigate the issues across the various platforms. With this in mind, it is worth noting that as with other studies (Décarre and Wetterhag, 2014; Ahlers et al., 2015; and Valanciene and Jegeleviciute, 2013), the countries differ in regulation, social and cultural norms, technological advances,

political climate, geography. This may impact the behaviour of investors and entrepreneurs, in ways that may not be apparent through this study.

4.3.4 Time Frame

Due to the fact that this report forms part of an MBA programme, the timeframes are limited to those provided by the Gordon Institute of Business School, which are about six months.

4.4 Quantitative Data Collection

4.4.1 Sampling Frame

The sampling frame includes the current outcomes of the equity crowdfunding platforms which are facilitators of equity capital.

4.4.2 Sampling Technique

A *non-probabilistic, subjective, purposive (judgemental), typical case sampling method* will be used to identify the relevant secondary data. The aim is to obtain a dataset that will provide a typical representation of the population. (Saunders & Lewis, 2012) Once this data is identified, cluster random sampling methods will be used to exclude data that is not relevant (Wegner, 2012).

4.4.3 Sample Size

The aim with this quantitative study is representation. So a large sample size is sought. Kumar's (2011) study spanned through the years 1996 to 2006 and consisted of 125,127 (4,780) firms and 996,042 (44,454) firm-years for private (public) companies. These panel data contained 1,256 IPOs.

4.4.4 Data Collection Tools & Methods

A secondary data sets was used. Secondary data can be defined as data that is used in a research project that was originally collected for another purpose (Saunders & Lewis, 2012). One of the major challenges with this data is to find the data that meets the needs of the research and the researcher has no control on the original method used to collect the data. However, the benefits include the fact that it can allow for historic data to be collected, data from across many regions to be collected and collected at less cost and time to primary data (Wegner, 2012).

4.4.5 Measurement

A number of data collection providers were identified. They include: Crunchbase, DealIndex, Crowdnetic, Crowdcafe, Crowdfundbeat, CrowdFundingCrentre, 506c Data, and Crowdwatch/Thompson Retuers. Due to cost, permission to use the data and most importantly, representation of the typical case sought, Crunchbase was chosen.

Crunchbase was chosen as it contained comparative information between equity crowdfunding and other traditional forms of equity funding. This was considered to be valid data for the purposes of answering the research questions posed. This data was clustered such that non-equity data is excluded. Table 5, below, illustrates.

Table 5. Data Included and Excluded from Crunchbase

Included	Excluded
angel	convertible_note
equity_crowdfunding	debt_financing
post_ipo_equity	grant
private_equity	non_equity_assistance
seed	post_ipo_debt
venture	product_crowdfunding
	secondary_market
	undisclosed

Source: Adapted from Crunchbase

The other sites for example CrowdDataCentre contain different types of crowdfunding data types including: Equity; Donation; Rewards, with an emphasis on Rewards. Crowdwatch shows data for different security types (Equity; Debt; Revenue Share; Convertible Debt).

4.4.6 Type of Analysis Conducted

According to Wegner (2012) a valid statistical analysis for this type of sample is the exploratory descriptive statistics and inferential statistics which includes time series analysis.

An independent samples test for the six types of equity funding data was done. For this analysis, the “funding round type” was recoded to “funding round type code” as shown in Table 6, below.

Table 6. Data Transformations

funding_round_type	Funding_Round_Type_Cd
venture	1
equity_crowdfunding	2
angel	3
private_equity	4
post_ipo_equity	5
seed	6

A cointegration test was also done. Testing for cointegration is now a core component of the analysis of multiple integrated time series, with the trace and maximum eigenvalue statistics proposed by Johansen (Leybourne, Kim, & Newbold, 2008). Further, “*many researchers assert that cointegration of asset prices is consistent with market efficiency and many articles*

reported the result of cointegration that are interpreted as a test of market efficiency with failure to reject the null hypothesis of no cointegration" (Sanyal, Gahan, Coomer, & Gupta, 2015:106).

4.5 Qualitative Data Collection

4.5.1 Sampling Frame

This includes platform facilitators of equity capital: the equity crowdfunding platforms.

4.5.2 Sampling Technique

A *non-probability sampling* method was used as there isn't a complete list of all platforms. *Purposive sampling,* where judgemental selection based on a range of possible reasons and premises, was used. *Homogeneous sampling,* where the aim was to obtain a subgroup that would provide minimum variation in possible data collected, was used. This would allow characteristics to be explored in greater depth and minor differences to be more apparent (Saunders & Lewis, 2012). The subgroup included those portals that were considered to be top platforms in their regions. As most of them are still being improved and refined, it was best to use the sites where success has been reported and success has been demonstrated as these could be considered the leaders in this field. The aim was also to have relevance (as opposed to representation) which could contribute to an indication of good mechanism design. A couple of sites were used as reference point to identifying a representative group of equity crowdfunding platforms:

- CrowdExpert (2016) keep a directory of investment crowdfunding platforms. This list was filtered to identify the equity only platforms. The meant excluding "real estate" and "peer to peer lending", to have "Accredited Investor Equity Only" and "All Equity and Mini IPO" remain.
- Capati (2015) reported top 10 equity crowdfunding platforms in Europe. These form part of the European Crowdfunding Network (2016).
- Twoon and Chow (2016) reported on equity crowdfunding in South East Asia.
- Nekaj (2015) confirmed that equity crowdfunding in India remains on hold due to low demand, threat of fraud, poor response to start ups listing and global consequences that it is facing.
- Leap Africa (2016) and King & Wood Mallesons (2014) identified top crowdfunding sites in Africa.

4.5.3 Sample Size

Given the exploratory and qualitative nature of this inquiry 15 platforms were explored. The aim is to obtain a diverse set of perspectives to a point of data saturation, which occurs when no new data about a phenomenon is being heard by the data collector (Morse, 1995). For a richer and even more diverse set of answers, a grounded theory approach would have been

ideal. However, given the time constraints in that at least twice as much data must be collected (and the fact that there is some secondary data already which can be used as a reference point) the approach will not be taken (Creswell, 2007).

4.5.4 Data Collection Tools and Methods

The data collection tools and procedures included *semi-structured observations* which will be completed by searching through the platforms. The observations are semi-structured so as to ensure that the similar information is collected from each of the platforms, even though the order may not be the same. Where necessary additional information was collected and where not relevant, information may not be collected (Saunders & Lewis, 2012). This is a similar method that was done by Décarre and Wetterhag (2014). Characteristics used for the structured observation emanate from the literature review and research questions. A pilot was done on the Seedrs.com platform to test for construct validity. It was then decided to add a section for Other which covered elements to describe the data sample and to enable open emend enquiry. The output is listed Table 7, below.

Table 7. Output from Pilot Conducted

Research Question 2	**Seedrs.com 2016/08/17**
Location/Regulatory/ Global Reach	EU or EEA countries as well as Switzerland Cross border Multi-currency
Liquidity	
Does the platform have a share exchange mechanism?	We act as the nominee for each Seedrs investor in your company. This means that we are the legal shareholder, and the underlying investors are beneficial owners. Nominee structures are very common and mean that you only have to face one legal shareholder – us – for votes, consents and other shareholder matters, just as you would with a fund or angel investor. It also means that you will find raising additional capital, and even selling the business, much easier than if you had dozens or hundreds of individual direct shareholders. For more information on what this structure is so important, please check out this blog post.
Does the platform offer an exit strategy?	Beyond further funding rounds, we support you every step of the way right through to exit. Whether you exit through trade sale, IPO or winding-up, our portfolio oversight team is available to help you navigate the process and to help ensure your investors receive their fair-share of returns.
Accounting Support	
Is the platform backed by a traditional funding mechanism?	Deep investor network Angel investors and venture capitalists invest alongside friends, family and tribes of supporters. Authorised and regulated by the Financial Conduct Authority
What is the extent of investment support services on the platforms?	Full-service We're not just introducers. Our team handles all documentation, admin and payment for both investors and businesses.
Cost Model	

What cost model is applied?	Fee calculator: 6% on the first £150,000 4% on £150,000 to £500,000 2% on everything over £500,000 Completion fee (excl. VAT) • No membership or pitching fee • Angel & VC co-investment • Full legal and tax documentation • One legal shareholder • Full payment processing • Company incorporation services • Dedicated account manager
Added Value	
What additional value is created by the platforms?	Private launch:… inviting friends, family, customers, advisors, suppliers, partners and any angel investors you've been speaking to, to check out your campaign and get in early
How long does it take to raise funds?	avg. weeks for a deal to fund You have up to 60 days to raise investment.
Other	
Advice - Investor	Investing involves risks, including loss of capital, illiquidity, lack of dividends and dilution, and should be done only as part of a diversified portfolio. Please read the Risk Warnings before investing. Investments should only be made by investors who understand these risks. Tax treatment depends on individual circumstances and is subject to change in future.
Average raise	
Total Raise	
Average investment	£1,700avg. investment amount
Largest investment	
Total users	
Successfully funded Companies	340+successful deals to date
Type of Companies	Seedrs is open to early-stage and growth-focused businesses based in EU or EEA countries as well as Switzerland. If you are based outside of Europe, you are welcome to join Seedrs as a member, but you will not be able to raise investment through us just yet.
Process	Create your campaign. Start by answering our story-building pitch questions. Explain your business, show off your team, lay out the market opportunity and highlight what you plan to do with your investment. Once you're happy with it, submit it to our team for review. Get funded. You have up to 60 days to raise investment. We'll share best practise creative marketing ideas for you to reach out to your network of friends and family, customers, press and others. And we will share your campaign with our active investor base. Grow your business. Once all of the legal paperwork is completed, we will transfer funds to your business. You'll be able to keep in touch with your investors for mentorship, marketing outreach, networking and more, all through your own investor relations portal.
Round Max	N/A
Limits	we find that idea-stage startups who are looking to build their minimum viable product (MVP) or gain initial validation tend to seek between £/€30,000 and £/€50,000; early-stage businesses that have an MVP or other meaningful progress and are now looking to generate traction and early revenues tend to seek between £/€50,000 and £/€250,000; and more established growth-focused businesses looking to scale tend to seek between £/€250,000 and £/€1,000,000 or more

4.5.5 Measurement

Data was collected for a period of 2 weeks from September 01, 2016. In terms of validity, the extent to which a data collection method accurately measures what they were intended to measure, was potentially threatened by subject selection. This bias that may cause the selection of research subjects to be unrepresentative of research population. Given the small number of platforms that exist, a completely different one may be out there and not yet identified or popular in use, and includes different perspective to the findings. (Saunders & Lewis, 2012)

In terms of reliability, the extent to which data collection methods and analysis procedures will produce consistent things, the only potential factor to threaten reliability is observer bias where the data may be interpreted in different ways. (Saunders & Lewis, 2012)

4.5.6 Type of Analysis Conducted

Data was collected into a spreadsheet format. This was done to reduce the risk of observer bias and improve the reliability of the findings. Data was then loaded into ATLAS.ti where an open coding method was used to reveal other codes which may surface in answering the research questions. Content Analysis was conducted to establish thematic frameworks, all the while avoiding researcher bias.

4.6 Limitations of the Research Methodology

While the study is expected to offer valuable insights into the structure of equity crowdfunding. Limitations included:

- The collection of a point in time data is biased to the moment in time. It would be useful to frame the study over time.
- The of accuracy and completeness as well as potential bias that comes with secondary data.

Although a number of limitation are identified, the study should provide valuable insight into the development of the structure of equity crowdfunding.

5 Chapter Five: Results

5.1 Introduction

In line with the research design, the convergent parallel design, this chapter begins with a parallel stage where a detailed description of the data collected through

- the secondary database, which represents quantitative data, is presented and the feedback on the range of equity funding deals concluded.
- the equity crowdfunding platforms, which represents qualitative data, is presented and the feedback of the platforms observed which facilitate such deals.

The last section of this chapter is the convergent stage which looks at the research questions to compare and contrast the results.

5.2 Qualitative Data Sample Obtained

This section describes the qualitative part of the research which is summarised in Table 8, below. It lists the platforms observed detailing the country, type of equity crowdfunding (ECF) as per US criteria, total raise, successfully funded companies and average raise since inception.

Table 8. Description of Platforms Observed

Case	Country	ECF Type (per US)	Total Raise (US$ m)	Companies Funded	Average Raise (US$ m)
1	US	Equity only		200	1
2	US		276		
3	US	Reg D & A+		70	
4	US	Reg A+			
5	US - global	Reg A+			
6	Canada				
7	Israel, representing 111 countries		250	97	2.577
8	Europe		242	443	0.546
9	Germany/Austria/Switzerland		25		
10	Netherlands		955	1261	0.758
11	Stockholm/Sweden/178 European		28	452	0.062
12	Germany		32	93	0.349
13	France		63	143	0.439
14	Africa		N/A	N/A	N/A
15	Africa		N/A	N/A	N/A
16	Singapore, Indonesia/Malaysia/India		27	14	1.929

5.2.1 Sample Size and Validity

The intention was to assess 15 cases. In total 16 cases were assessed. One case was added as it was felt that more information was required on a typical Regulation A + “Mini-IPO” than on the case that was initially identified. Two were found to be no longer in operation.

5.3 Qualitative Sample Data Results

5.3.1 Research Question 2b. Platforms Represented

Case 10 indicates the highest raise with $955k million. It also has the most funded companies in the sample. Upon investigation it was found that the platform has recently added other forms of financing including debt. Interestingly, Case 7 represents the platform with the highest average raise at 2.577, with among the smaller number of funded companies at 97.

5.3.2 Research Question 2c. Countries Represented

Eleven country regions were identified. They included: US, Canada, Israel, Germany/Austria/Switzerland, Netherlands, Stockholm/Sweden/Europe, German, France, Singapore, Indonesia/Malaysia/India. The two cases that were found to no longer be in operation were Africa based.

5.3.3 Research Question 1a. Liquidity

5.3.3.1 Do the platforms have a share exchange mechanism?

Only two of the platforms assessed offer a share exchange mechanism and they are the ones which were classified as “All Equity and Mini IPO platforms”. These were also referred to as “The Small-Cap IPO - Reg A+”. (3 cases:4, 5,6). In case 5, the share exchange was in the form of Real-Time and Window Trades, where a window trade as being:

“*…an innovative way of placing trades designed for long-term investors. Instead of executing immediately orders are sent to market twice a day (11 AM and 2 PM).* “

5.3.3.2 Do the platforms offer an exit capability?

Three types of categories were evident when looking at the results in this section.

1. No. Cases: 2, 7, 1, 3, 9, 10, 13.

These essentially described the sort of investment as a type of private equity investment where the investment was illiquid and would be possible in the long run.

2. Maybe.

"As your investment will be made through an offer from a company using a prospectus exemption, it will be possible to resell them under another exemption or after a delay of four months of the issuer becomes a reporting issuer. Therefore, it is important to understand that you may not be able to sell your security when you want you want or at all" (Case 6)

“…the platform’s organisation has facilitated a number of exists through acquisitions and IPOs”. (Case 7)

3. Yes. Cases: 4, 5, 8.

Case 5 already facilitates trading. Case 4 has an OpenIPO Auction function which allocates shares to long term investors.

Case 8 "*Have facilitated two exists…..Camden Town Brewery was successfully acquired by AB InBev just eight months after its raise on Crowdcube £85M. ….E-Car Club sold to Europcar in 2015 giving its 63 crowd investors a multiple return on their investment.*"

5.3.4 Research Question 1b. Accounting Support

5.3.4.1 Is the platform backed by a traditional funding mechanism?

In an effort to answer this question, three themes became evident. They were registration, experience, subsidiary operations and entrepreneurship.

- *Registration*. In 3 cases (1,3, and 5), they were themselves investment companies who were registered broker dealers or members of financial authority (regulator)
- *Experience*. 4 cases (3,7,12, and 16) indicated that their executives were former venture capitalist or private equity professionals.
- *Subsidiary Operation*. In 3 cases (1,5, and 8), the platform companies were, subdivisions or subsidiaries owned by an investment company.
- Entrepreneurship. One case (2) was started by people with experience in starting companies and obtaining funding.

5.3.4.2 What is the extent of investment support services on the platforms?

Although there was no expectation of identifying the specific systems used to keep track of allocations of shares, various forms of accounting administration were identified.

Table 9. Extent of Investment Support Services on Platforms

Accounting Admin Support	Case
Fund management	1
Screening companies	3
Automated deal screening *"The Fundnel Factor is a data-guided deal screening and evaluation process that all investment opportunities go through. Our system will evaluate a candidate company's financial performance, growth, margins, management background, compares them with the industry/sector performance and subsequently evaluates the potential for exits for the investment – over 600 quantitative data points reviewed per opportunity.* *The system generates a final score (The Fundnel Factor) which when compared against internal and industry benchmarks, decides whether the company merits further evaluation by our investment team."*	16
Government backed fund design	8
Company/Investment performance monitoring	10
Co-created (with a partner) the fiscal-legal framework behind the funding networking coordination with the Dutch National Bank and Financial Markets Authority. Partner is accountant and provides accounting support to businesses in the funding network.	10
A partner who does valuations, assurance and consulting firms.	11
A partner who does audit, outsourcing & payroll, tax and advisory and assist clients in more than 100 countries	11
Advisory "*Our executives have been assisting U.S. and International companies navigate the U.S. public markets for over 20 years. We provide a full suite of services including corporate development services, M&A advisory services, regulatory advisory services, fairness opinions, valuations, corporate governance and compliance services*"	5
Banking "*We focus on growth companies seeking capital in the range of $10-100 million through various debt and equity financing instruments. Collectively, we have taken over 100 companies public and are experienced in structuring and placing public equity, private investments in public equity (PIPEs), private equity and debt financing*."	5
Sales and Trading	5

"Our traders provide quality trade execution using high-speed technology and access to all significant pools of liquidity in the market place. Our trading capabilities also include order routing methodologies aimed at securing the best possible price and execution."	
Revenue sharing *"Business owners agree to share a percentage of its gross revenue with investors. Merits are:* • *No dilution to existing shareholders* • *Flexible payments as proportion of revenue* • *Flexibility to cap the return to investors to either; a predetermined "investment multiple" on their investment is achieved, or a predefined duration in accordance with its associated terms (e.g. after a certain time frame)"*	16
Fund Administration *"A strong admin process is required to track and fulfil pre-determined regular pay-outs. If more than 100% funding is achieved, the company will have the option of triggering an upsize option; if not, allocation will be based on pro-rata basis or selective basis+ (your company will retain full autonomy in this decision)."*	16
Ownership *" Creating a SAS (Simplified Joint Stock Company subject to French regulations) dedicated to each startup. This is also called SAS interposed company or holding company…* *This includes all SAS users investors…* *Each SAS holds between 5 to 20% stake in the startup."…* *This intervention model allows:* • *to give more power to all subscribers, in order to maintain and ensure the common interests* • *but also simplify the management of its shareholders for the entrepreneur "*	13
Ownership *"The Funding Network bundles all your investors into a cooperative legal entity created specifically for your company. This way, the crowd becomes one legal shareholder in your business."*	10

5.3.5 Research Question 1c. Cost Model

5.3.5.1 What cost model is applied?

Different kinds of fees were identified. The table below list them.

Table 10. Fee Types by Platform

Fee Type [# occurrences]	Cases	Range	Description (case #)
Investee Company			
Initial charge [4]	1, 2, 8, 10	Free	This is the fee to sign up/setup/register with the platform. In Case 10, affiliates even "receive a fixed reward of €75 for every entrepreneur they register on our funding network"
Listing [1]	11	€1000	Only one instance (case 11) indicated this listing fee.
Administration [6]	3, 6, 7, 9, 12	Varies	$0 - $4,000 (3) The transaction fees charged by our online payment provider for processing the payment associated to your campaign. (6) Administration Fee Reserve: 4% of invested capital per company for direct reimbursement of fund expenses over the 8 year lifetime of fund (7) Fees are based on which country the payment card is registered in and are 0.5% for UK, 1% for Europe and 2.9% for ROW (7) Legal fees. Once the campaign is successful a investment cooperative will be created. Our solicitor charges EUR 650 (excl. VAT) for the creation of an investment cooperative. In addition, the notary charges EUR 500 (excl. VAT) for a successfully equity offering. The costs of administrating the investment cooperative amounts to, on average, EUR 500 per year. (9) Low administrative costs (12)
Commission [1]	1		based on a percentage of the total amount raised. Our commission is intended to be generally consistent with what companies pay to investment bankers in the offline world for similar size fundraising rounds (1)
Success [5]	6, 8, 10, 11, 16	4-8%	Applicable fees if your campaign is a success (i.e., it reaches its funding goal within the delays) (6) 7% (VAT exempt) of total funds processed (8) < EUR 250k 7% - 6% (10) EUR 250k - 500k 6% - 5% (10) > EUR 500k 5% - 4% (10) 8% (11) 5% (16)
Underwriting	4	7%	7% (4)
Investor			

Carry [2]	1, 7	0,20%	0 (1); 20%(7)
Management [3]	1, 7, 8	0-2%	0.5% (1); 2% of invested capital per company for four years (7); FREE (8)

5.3.6 Research Question 1d. Added Value

5.3.6.1 What additional value is created by the platforms?

The platforms have come up with various ways to ensure success of the campaigns that are run on their platforms. Below is a table that list those that were highlighted.

Table 11. Value Added by Platforms

Added value	Case
Investor – Entrepreneur communication facilitation	1
Free product samples to investors	1
Financials to investors	1
Learning centre	2
Window Trades- Trades are grouped together and executed cheaply to the market twice a day	5
Mentors	7
Marketing to investors	11
Age and Popularity of the platform and Success rate	8 & 12

5.3.6.2 How long does it take to raise funds?

The longest reported period to run a campaign to raise funds is 90 days. However, a company can raise all its funds within seconds of running a campaign.

- Mondo raised £1m IN 96 seconds (8)
- Kidswatcher raised EUR 185,000 via crowdfunding, within 48 hours (10)
- 2-3 months; 10 days' preparation (1)
- minimum of 60 days (3)
- Each company can determine the campaign duration that suits them best, though the latter can only be of a maximum of 90 days. (6)
- 90 days (16)

5.3.7 Research Question 1e. Other

5.3.7.1 Process

In terms of process, the steps are as follows:

1. Create a profile and apply

This process seems simple enough. It includes signing up on the website and submitting information. Information requirements vary per site. The campaign is created at this stage as well.

2. Disclosure

Some sites expect “basic company information on hand, including incorporation details, business registration numbers, financial performance etc.”

However, the MINI IPO’s expect that an entrepreneur goes through the following steps:

“*1. certifying your financial statements*

2. creating a first draft business write up with financial forecasts

3. begin meeting with the buy-side (it's now legal to test the market, and we can help you do just that)

4. and choose your underwriter”

3. Approval

There is a vetting process that is done behind the scenes. One site has acknowledged that more attention is paid to a campaign based on the amount of effort provided by the entrepreneur.

4. Launch

Sometimes there are oversubscriptions. In this case, some platforms allow investee company to decide whether to continue or not in accepting the oversubscription portion.

5.3.7.2 Type of Companies

The type of companies invested in are those in the early stages of development, start ups, growth companies. Some of the platforms specialise in industries, for example some of what came up was: consumer products; companies with a tech touch to it; engineering entrepreneurial projects; environment and greentech; health and biotech; digital and media; commerce, Industry and Services; and not concept only.

5.3.7.3 Advice

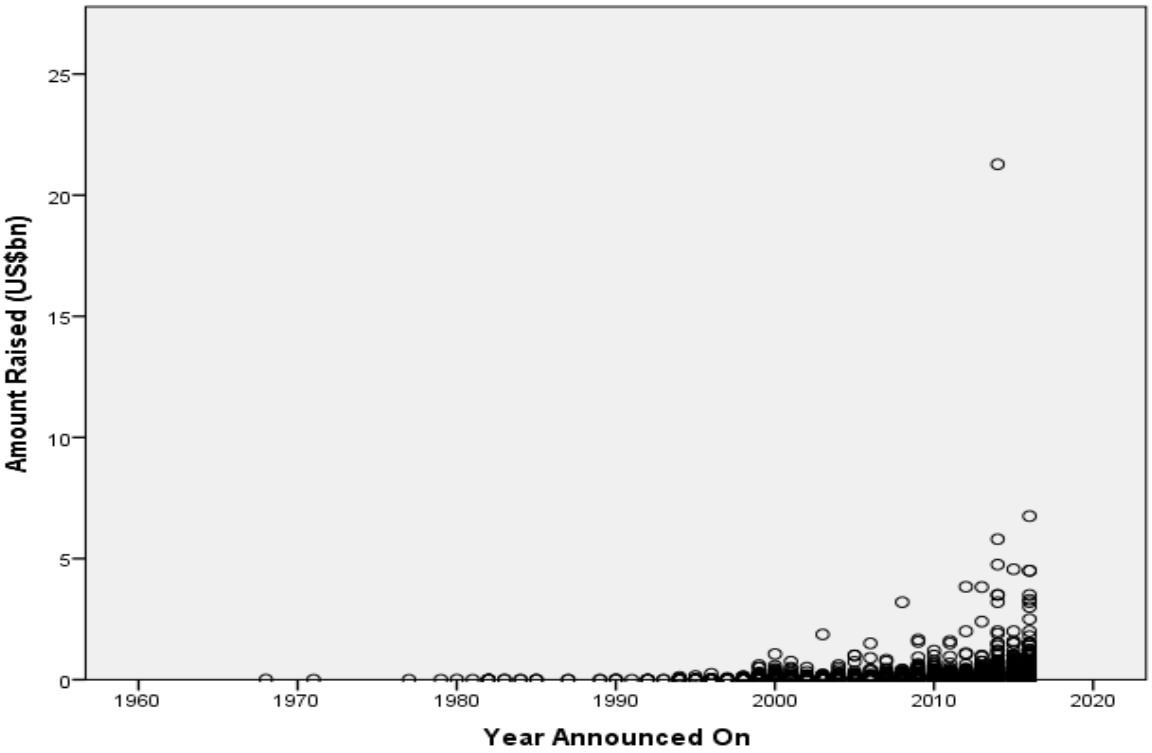
The portals contained warnings and disclaimers that give an indication of the level of commitment that can be associated with an equity crowdfunding platform. The words used in these warnings provide this picture: speculative, consult advisors, diversification, risky investment, long term/patience, accredited investor/individual net worth, understand risk, risk tolerance, early stage, management knowledge, limited information, illiquidity, no dividend, dilution, loss of investment.

5.4 Quantitative Data Sample Obtained

5.4.1 Descriptive Statistics

By inspection using a scatter plot, the nature of the relationship between the amount raised and time is shown below. Time is defined as the independent variable. The amounts raised (US dollar denominated) is defined as the dependent variable.

Figure 15. Scatter Plot



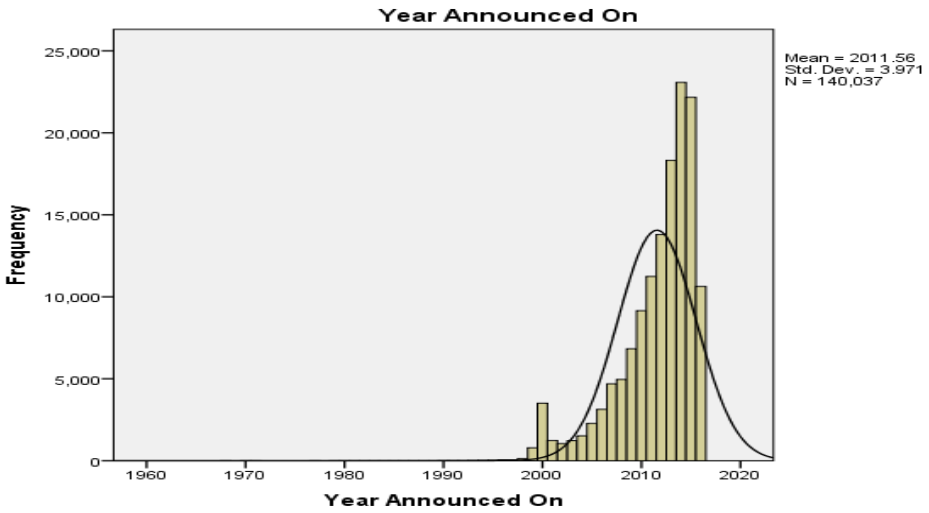
5.4.2 Sample Size and Validity

Out of 140,037; 112,768 cases were considered valid for all equities. Data excluded was that of cases where the amount raised was not disclosed. It also included about 19 cases where the raised amount was not converted from the country currency at the time to the USD dollar denomination. The SPSS output of descriptive statistics can be found on Appendix A (Table 16. Frequencies and Descriptive Statistics ; Table 17. Descriptive Statistics ; and Table 18. Statistics by Funding Code).

5.4.3 Central Location and Dispersion

Figure 16, below, illustrates the 48 years' range of data starting from 1968 to 2016 containing a total of USD 21,271,935,000 worth of equity funds recorded to have been raised.

Figure 16. Frequency of Equity Deals Announced Over Time



The *mean* (centre) year for raising funds was 2011. The *median* year (middle of sorted data) for raising funds was 2013. The *mode* (most frequently occurring value) year for raising funds was 2014. The *mean* amount was USD 10,781,921.17; the *median* amount was USD 1,800,000; and the *mode* amount was USD 1,000,000. The *variance* (which is average squared deviation from the central value) is 15.772, with a *standard deviation* (the square root of the variance) of 3.971.

In terms of skewness and kurtosis, the histogram appears to be negatively skewed. This implies the mean is distorted by the few extremely small data values (outliers) on the left of the mode and mean. This is all the data going back to 1968. A test for normality was conducted using SPSS. The results are displayed in Appendix A (Table 19. Normality). According to the Shapiro-Wilk Test (preferable) and the Kolmogorov-Smirnov Test at 5% confidence levels, the significance levels are less than 0.05 and therefore the null hypothesis of normality should be rejected.

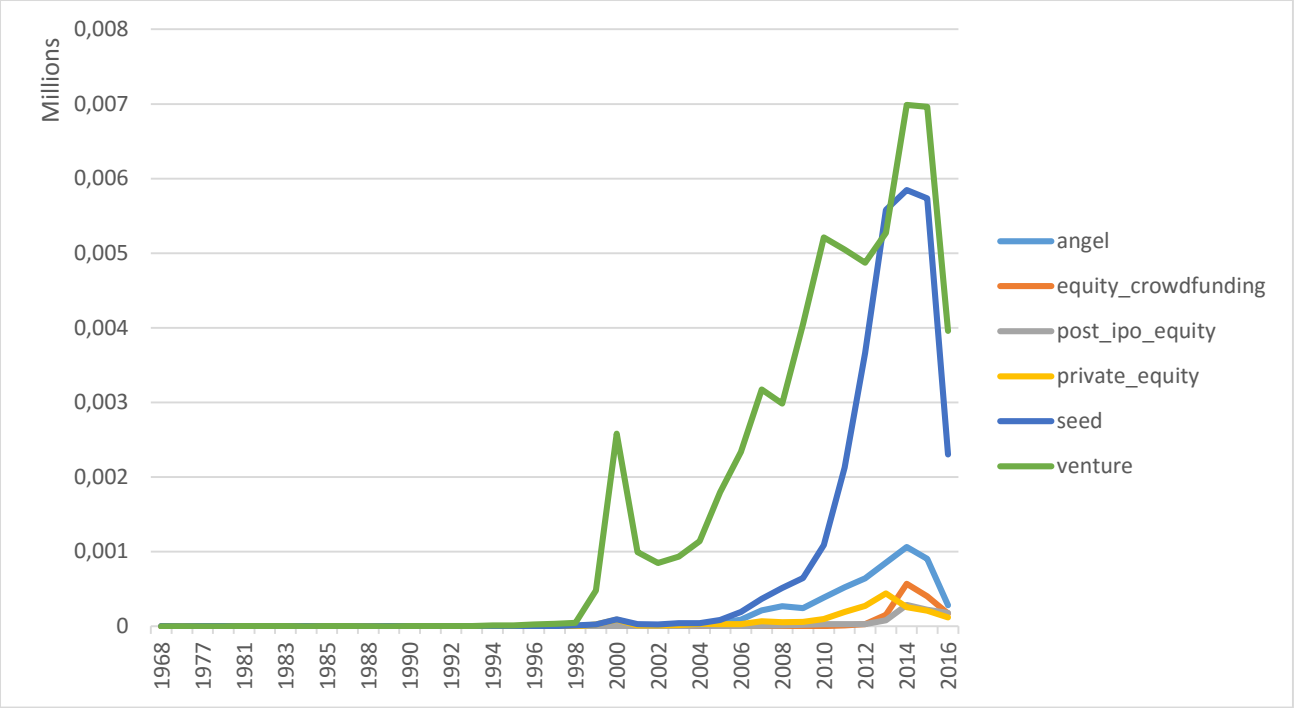
Another set of tests (which include Jarque-Bera and Doornick Chi-Square) were run using NumXL. The results (Appendix A, Table 20. Normality Tests) also show at 5% confidence levels, the p-value was less than 0.05. Therefore, the null hypothesis of normality is rejected.

The data was then trimmed to start from 2010. The tests were rerun. The results (in Appendix A, Table 21. Normality Tests of Data from 2010) were similar to the above. At 5% confidence levels, the p-value was less than 0.05. Therefore, the null hypothesis of normality is rejected. The median is therefore the most preferred measure of central location.

5.4.4 Equity Funding Rounds over Time

Figure 17, below, shows that equity crowdfunding appears to be growing over time.

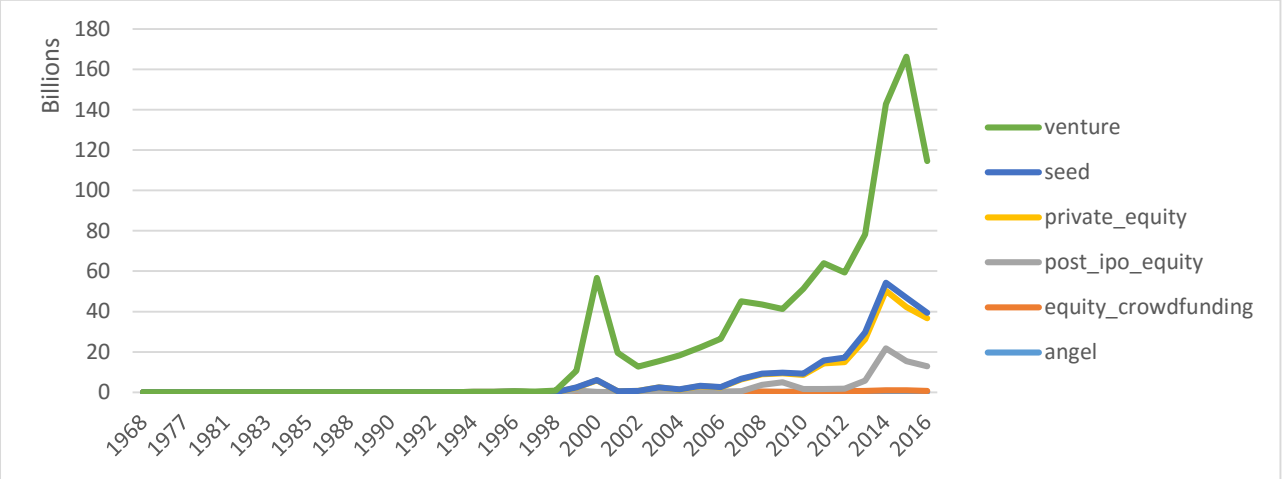
Figure 17. Number of Equity Funding Rounds Over Time



When compared to other type of equity funding, it can be seen that venture capital and seed capital has had a large number of rounds. Equity crowdfunding has had a low number of rounds like private equity and angel investments.

On the other hand, when looking at the value generated by these deals, a different picture can be seen. The recorded value from venture capital is exceptionally high. This is followed by seed capital and private equity. The last batch is that of equity crowdfunding and angel investing.

Figure 18. Value of Equity Funding Deals over Time



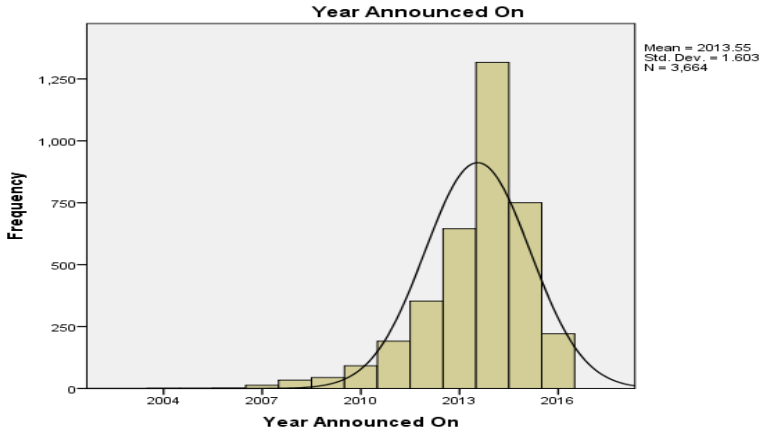
5.4.5 Equity Crowdfunding Sample Size and Validity

Only 1338 cases (out of 3664) were considered valid. Data excluded was that of cases where the amount raised was not disclosed.

5.4.6 Equity Crowdfunding Central Location and Dispersion

The mean (centre) year, median year (middle of sorted data), mode (most frequently occurring) year for raising funds were all 2014. The mean amount was USD 961,123.98; the median amount was USD 241,606; and the mode amount was USD 100,000. The SPSS output of descriptive statistics can be found on Appendix B (Table 25. Frequencies & Descriptive Statistics for Equity Crowdfunding Only; and Table 18. Statistics by Funding Code). The range shows that there is 12 years' worth of data. It contains USD 63m worth of funds recorded to have been raised since 2008. Equity crowdfunding represents only 0.77% of all equity raised so far. The variance is 2.569 and the standard deviation is 1.603.

Figure 19. Frequency of Equity Crowdfunding Deals Announced Over Time



The histogram (Figure 16, above) is negatively skewed. This implies the mean is distorted by the few extremely small data values (outliers) on the left of the mode and mean. The median is therefore the most preferred measure of central location.

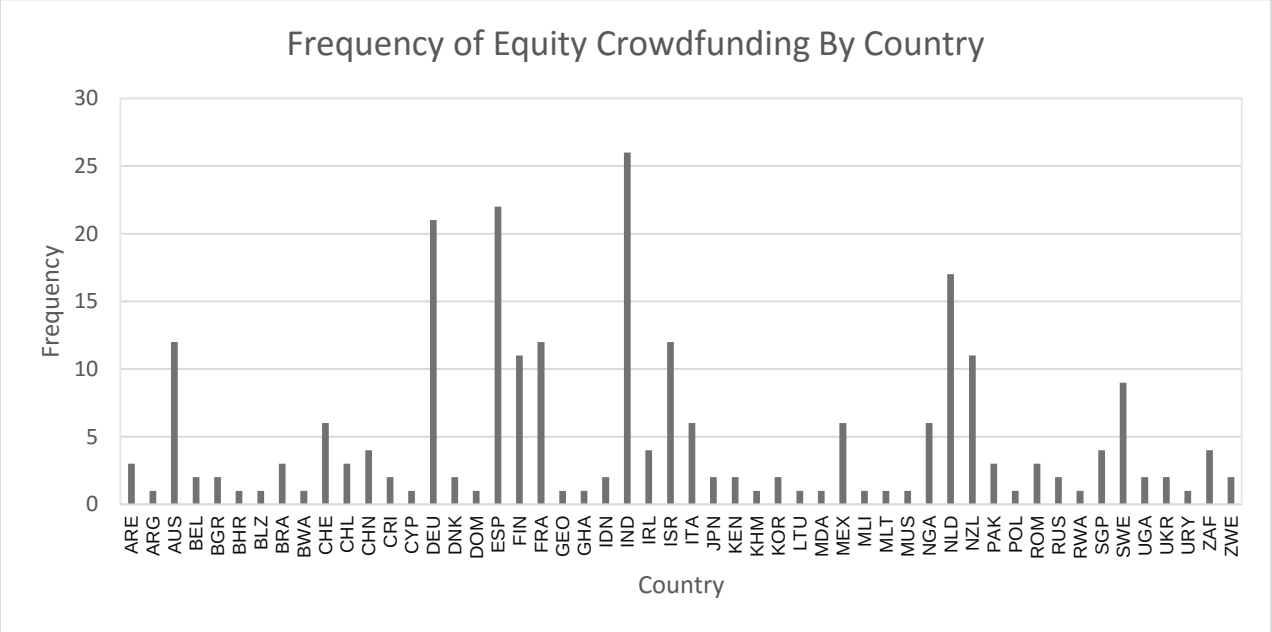
A normality test was conducted. It included Jarque-Bera, Shapiro-Wilk and Doornick Chi-Square tests (Appendix A, Table 27. Normality Tests for Equity Crowdfunding). It shows that at 95% confidence intervals, the p-value was less than 0.05. Therefore, the null hypothesis of normality is rejected. The median is therefore the most preferred measure of central location.

Removing some data and re-running the tests since 2010, the results (Appendix A, Table 28. Normality Tests for Equity Crowdfunding Data from 2010) reveal that at 95% confidence interval, the p-value was more than 0.05. Therefore, the null hypothesis of normality is accepted using the two tests Jarque-Bera and Shapiro-Wilk.

5.4.7 Equity Crowdfunding Countries Represented

In terms of country representation, 55 countries are reported. USA is noted as holding the number one spot with 2674 rounds of equity crowdfunding deals. They are followed by Great Britain with 412 and then Canada with 181. The next country to follow after is India with 26. Due to such a large discrepancy, the top three are then removed to identify the rest of the countries that have adopted equity crowdfunding. As can be seen from the graph below, the rest of the countries show a low number of deals, indicating a slow adoption rate, indicated at less than 5 rounds per country. Appendix B (Table 26. Frequencies by Country for Equity Crowdfunding Only) contains the detailed Frequencies.

Figure 20. Frequency of Equity Crowdfunding by Country since 2006 (excl. USA, Canada and Great Britain)



5.4.8 Equity Crowdfunding Platforms Represented

It was interesting to note that from the list of investors in the deals above (which can be found on Appendix C, Table 29. Equity Crowdfunding), the equity crowdfunding platforms were sometimes recorded as investors.

Partnerships

They sometimes partner with other individuals, companies and even other equity crowdfunding platforms. This can be seen with the Seedrs platform as an example. In some of its deals, it has partnerships from various parts of the globe:

- Farber Ventures, not listed on the database but upon investigation was found to be a seed capital investor with a team that "combines extensive backgrounds in entrepreneurship, early and late stage technology ventures, venture capital and strategy consulting with top talent in design, technology and business" (Farber Ventures, 2016);
- James Sore, an individual investor, and was also found to be the Chief Investment Officer at Syndicate Room, another equity crowdfunding platform (Syndicate Room, 2016);
- Juno Capital, listed as an angel group, "Juno Capital is an innovative specialist alternative asset manager to a network of wealthy individuals and family offices" (Juno Capital, 2016);

- Wayra, listed an international accelerator: “At Wayra, entrepreneurs find access to spaces unique and free, experts working in different areas of a company, mentors, new partners needed for their businesses, investors, financial support, and the possibility of doing networking at a national and international level” (Wayra, 2016); and
- Crowdcube, another equity crowdfunding platform.

Value Add

The platforms also seem to sometimes take a lead and sometimes not. However, there is a lot of value to be had by the entrepreneur through such exposure and with such partnerships. There are many more cases where there are no partnerships.

Institutional Investors

The findings further point to an interesting investor. One of the largest institutions, Citi Group, listed as a private equity firm, is also a user of the platforms. The investment is one of the very large ones at over $14m. This funding was done in July 2016. The investee company in the US called Dooda, a company involved in Android, Apps, Business Development, Digital Media, Internet, iOS, and Social Media. Astutia Ventures is also listed as a venture capital firm. However, it has invested in equity crowdfunding deals.

Newly Established Platforms

Another one is by Pepins Group AB. A fairly new funding platform, started in January 2015. They invested in Paradox Interactive, a gaming, internet, publishing company based in Stolkhom. To date the platform has raised over $11m.

5.4.9 Equity Crowdfunding Companies Represented

Technology Companies

Various categories of companies exit but what is notable is that 217 companies listed belong to the “tech” company category list. 135 belong to the “e-commerce” category and 35 belong to the “digital” group.

Valuation

The secondary data was not valid in providing insights on market to book value. It contained a post money valuation. However, a pre-money valuation amount was not included.

5.5 Quantitative Data Sample Statistical Results

5.5.1 Independent Samples Test

The statistical test will look to see if there is a difference in the average value of deals raised through equity crowdfunding and those from other funding models?

For the test, the Analysis of variance (ANOVA) supplemented by a Post-Hoc to allow for multiple group comparisons, is preferred. However, given that the data is not normally distributed, the non-parametric test equivalent, Kruskal-Wallis test is conducted.

For the Independence samples median test,

Ho = The group medians are equal
H1 = At least one group medians is not equal to the others

For the Independence samples Kruskal-Wallis test,

Ho = The group distributions are equal
H1 = At least one group distributions is not equal to the others

The results of the Kruskal - Wallis Test (Appendix A, Table 22. Kruskal Wallis Test) show that on the independence samples median test, the null hypothesis, the medians of raised_amount_usd are the same across categories of funding round type code, is rejected. The sig value is less that the significance level of 0.05. On the Independent Samples Kruskal-Wallis test, the null hypothesis, the distribution of raised_amount_usd is the same across categories of funding round type code, is rejected. The sig value is less that the significance level of 0.05.

Looking at the mean ranks shown in Appendix A (Table 23. Kruskal Wallis Test) of equity crowdfunding (2), angel investment (3) and seed investment (6) appear to be similar and that of private equity (4) and post ipo equity (5) also appear to be similar. Venture capital (1) is in the mid-levels between the two.

The medians (below) seem to show a similar observation. It appears the medians of equity crowdfunding (2), angel investment (3) and seed investment (6) are similar and that of private equity (4) and post ipo equity (5) are also similar. Venture capital (1) is in the mid-levels between the two.

Table 12. Medians by Funding Type

Type Code	Median	Type Code	Median	Type Code	Median
1.00	5 025 999.00	2.00	241 606.54	3.00	400 000.00
4.00	25 000 000.00	5.00	12 000 000.00	6.00	300 000.00

Upon conducting a medians test, it is observed that similar observations can be made based on the proportions of frequencies of data. The results can be found in Appendix A (Table 24. Medians Test). Further pairwise tests, between crowdfunding (2) and angel investment (3); and between angel investment (3) and seed investment (6), still reveal significant difference at the $p<0.05$ level.

5.5.2 CoIntegration Test

The cointegration test was does to determine if there at least one possible linear combination for the input variables to yield a stationary process? Non stationary data is unpredictable and changes over time - the averages, variances, covariances, change over time. The test examined question under different assumptions: no deterministic test (pure random walk); constant or intercept or only Deterministic mean (pure random walk with drift; and constant plus time trend (random walk with drift and deterministic trend).

Table 13. Johansen Cointegration Test

Test	**Stat[a]**	**C.V.[b]**	**Passed?[c]**	**5.0%[d]**
Trace Test (r=0)	**0**		**r>0**	
No deterministic Test/Mean	1160.9	83.9	TRUE	
Constant Only	1259.0	95.8	TRUE	
Constant plus Time Trend	1378.7	107.3	TRUE	
Maximum Eigenvalue Test (r=5)	**5**		**r=6**	
No deterministic Test/Mean	8.6	4.1	TRUE	
Constant Only	18.3	3.8	TRUE	
Constant plus Time Trend	51.6	3.8	TRUE	

a.Test Statistics (e.g Z-score)
b. A boundary limit of the region of all possible values for the test statistics (i.e. score) under the null hypothesis and significance level
c. Determines if the input time series variables are cointegrated
d. Significance level, a probability threshold below which the null hypothesis will be rejected

The results of test applied to all equity funding methods indicate that the test values are significant at 5% level of significance.

5.6 Convergence of Qualitative and Quantitative Results

Given how interlinked the data and some of the sub questions that formulate the answers to the main questions, this stage is useful to be completed prior to beginning chapter six, the discussion of the results.

Table 14. Convergence of Results

Research Method	**QUANT**	**QUAL**
Research Question 1		
Do equity crowdfunding platforms replicate the outcomes of public markets?		
Research Question 1a.		5.3.3
Research Question 1aa: Do the platforms have a share exchange mechanism?	*N/A*	*5.3.3.1*
Research Question 1ab: Do the platforms offer an exit strategy?	*5.4.8*	*5.3.3.2*
Research Question 1b.		5.3.4
Research Question 1ba: Is the platform backed by a traditional funding mechanism?	*5.4.8*	*5.3.4.1*
Research Question 1bb: What is the extent of investment support services on the platforms?	*5.4.8*	*5.3.4.2*
Research Question 1c.		5.3.5
Research Question 1c: What cost model is applied and is it cheaper given the disintermediation?	*N/A*	*5.3.5.1*
Research Question 1d.		5.3.6
Research Question 1da: What additional value is created by or through the platforms?	*5.4.8*	*5.3.6.1*
Research Question 1db: How long does it take to raise funds?	*N/A*	*5.3.6.2*
Research Question 1e: Other?	*5.4.8*	*5.3.7*
Research Question 2		
Could equity crowdfunding be an exit for or an exit into from other funding mechanisms much like public and private markets can be in certain conditions?		
Research Question 2a: Which equity funding model is it likely to be an alternative for (supplement)?	*5.5.1*	*5.3.1*
Research Question 2b: Could equity crowdfunding be an exit for angel funding, friends and family, and entrepreneurial personal finance, or vice versa?	*5.5.2*	*N/A*
Research Question 2c: Could one type of equity crowdfunding platform be an exit for another type, in a different country or market for example?	*5.4.8*	*5.3.3.2*

Twelve of the sixteen platforms that were sampled in the qualitative part of the study were found to be present in the quantitative data obtained from the secondary data set. A sample extract can be found on Appendix C (Table 30. The Platforms Represented in Qualitative and Quantitative Data Obtained). Two were from US and Canada. Two were from Africa. They were simply not listed and no deals loaded against them.

Although the process was generally found to be repeatable and reliable, the quantitative data alone would have not been valid in answering some of the sub questions from research question 2 and the qualitative data alone was also found not have been valid in answering some of the sub questions from research question 1. However, the research design chosen proved useful in ensuring a comprehensive set of sufficiently triangulated data is obtained in answering the overall research questions.

6 Chapter Six: Discussion of Results

6.1 Introduction

The previous chapter presented results from the research process in which two questions, one exploratory and one descriptive were answered. This was done through secondary data collected and primary data obtained through platforms.

This chapter will address the objectives of the research by discussing the results in relation to the theory discovered in the literature review, in chapter two. The structure will follow the format of chapter three, where research questions were asked in correspondence to chapter five.

6.2 Discussion of Research Question 1

Do equity crowdfunding platforms replicate the outcomes of public markets?

Recall that in chapter two, the study began a process of comparing characteristics of private and public markets (Table 3, in page 17). In light of the information gathered since, this section looks at equity crowdfunding against these two mechanisms.

Table 15. Equity Crowdfunding Against Private and Public Markets

	Private	**Public**	**Crowdfunding**
Raise funds from investors.			
Information Gaps	Intermediary Certification Due Diligence Deal Structures Deal Context, Terms and Contracts	Listing requirements	Listing requirements Intermediary Certification "Due Diligence"
Incentive Compatibility	Incentives Structure	Intermediation Costs	Intermediation Costs Incentives Structure
Source investment opportunities and make investments.			
Allocative Efficiency	Networks	Listing	Listing, Networks
Timing		Min 6 months	Max 3 months
Incentive Efficiency	Control taken	Control not taken	Control not taken
Actively manage investments.			
Holding period	Long term, e.g. 3-7yrs	Short term, e.g. 1 day	Long term, e.g. 3-7yrs
Returns	Value Add Quality of Professional	Trading	Value Add Quality of Professionals

	Private	Public	Crowdfunding
Realise capital gains by selling or floating those investments.			
Exit (Liquidity)	Sell (illiquidity, cyclicality)	Sell (delist-issuer, trade out)	Sell (illiquidity, cyclicality)

6.2.1 Information Gaps

There are information gaps in equity crowdfunding. In terms of Information requirements,

- Ahlers et al. (2015) found that in terms of disclosure, there is no standard way of presenting financial information to potential investors
- Donovan (2016) found, there is no link between historical accounting disclosure and start-up capital raised
- *Donovan (2016) found there is a link between long term forecasts of expected future performance and capital raised*
- Ahlers et al. (2015) found that there are assumptions around what the entrepreneur knows and what the investor knows

All of the above indicating a lack of incentive to share information honestly, an adverse selection (Ahlers et al., 2015) problem exists. As a result, the crowdfunding markets tend to act like the private markets where continuous valuation and pricing is not possible (Lerner et al., 2012)

This is not surprising given the finding that a good portion of the current executives in the crowdfunding markets are experienced in venture capital and private equity. However, platforms put on a disclaimer and investors are also warned that limited information is available. Where the portals are registered with a financial regulator, it implies that they do endeavour to comply with the regulation such as, Regulation Crowdfunding and EU directives. Some portals, as part of a “due diligence” process, perform screening of companies and other have even automated this process. Others partner with consulting firms to offer and conduct valuations. One can also see the wisdom of the crowd (Décarre & Wetterhag, 2014) play itself out and contributing to this old process as well.

Unless platforms are standardised, as they have been in some regions, a problem of moral hazard will occur, the information will not be trusted to ensure financial markets coordination to enable any level of integrated equity crowdfunding mechanism

6.2.2 Incentive Compatibility

The fee structure that one finds in equity crowdfunding is similar structure to that of traditional funding methods. In traditional private funding methods, where charged, the management fee runs at 1.5-3% (Gilligan & Write, 2010), while the rates quoted for crowdfunding range from 0.5 and 2%. The carry fee is typically 20% (Gilligan & Write, 2010). In the one portal where it was charged, it was 20% as well. This is in line with the fact that there is good quality management that sits behind the platforms.

Similarly, in the public markets, the fees included listing as in listing on the exchange. This initial charge for listing and running a campaign was typically free except for one platform where there was a cost of 1000 euros. The administration fee is similar to the registration and printing fees. The fees were not necessarily mentioned but the following services were offered either directly or through partners: underwriting, legal, auditor, financial reporting advisor; implying that these costs may come up along the way for the entrepreneur. Success fees, which ranged from 4% to 8%, were applied similarly across the platforms. Of the five cases, where it was applied, it was charged based on the success of the campaign. If the company's funding goal was reached, the fee applied. In one instance, the platform went as far as to apply a tiered approach, with different fees per range of achievement.

6.2.3 Allocative Efficiency

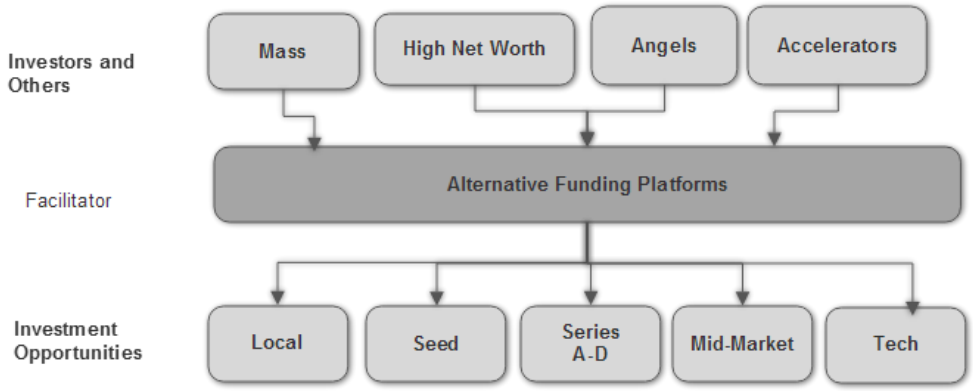
The process of listing is varied slightly among the platforms, however, what was clear is the stages which included that the investee company signs up to a portal, is vetted, it creates a campaign. The process can be simple and where complicated, support was offered.

Unlike private markets, where the intermediary relies on relationships creating corporate ties leading to the abuse of the system whereby PE firm allows debt providers to over-leverage a firm, for example (Lerner, et al., 2012) and local market experience (Groh & von Liechtenstein, 2011), any investor or entrepreneur can use the platform. The users ranged from individuals, seed capital investors, angel groups, accelerators, venture capital firms and private equity firms. This does not mean the networks disappear or relationships die out. Given the traditional private markets mechanism backing of experience, subsidiary operation that sits behind the method of raising finance.

The platforms only restricted access to regions that they did not have jurisdiction to, according to their financial regulation. One platform had access to as many as 100 countries, and this proved to be of benefit to them given that they were among those with the highest average raises of the sample. This enhances the work done by the World Economic Forum (2015),

which showed that only the mass market and individual investors would access the equity crowdfunding platforms.

Figure 21. Increased Access: Users of Equity Crowdfunding Platforms



Furthermore, unlike the findings by Alsan and Kumar (2011), show that technology companies are less likely to go public (in public markets), the findings reveal that there is enough technology companies listed and making deals on the equity crowdfunding platforms

6.2.4 Timing

Once a campaign is launched, raising funds through a crowdfunding campaign, can be completed in half the time of the traditional funding methods of the stock exchange. Three months instead of six months. This is fair given there is less information actually disclosed and vetted.

6.2.5 Incentive Efficiency

The platforms looked at illustrated that through a campaign, the owner decides how much funding to raise. In some cases, the campaign could be oversubscribed but the owner makes the decion to access of decline this oversubscription. Alhers et al (2015) had found that the amount of control retained signals expectation of future cash flows, where a high share indicates high expectations.

Two platforms had interesting ways to manage ownership. The contributions from the campaign are combined to form one entity per business. This entity would be the one legal shareholder for each business, with a holding which could range from 5% to 20%, in one case. According to French Regulation, this is referred to as a Simplified Joint Stock Company (SAS). The benefits include maintaining and ensuring common interest for the shareholders, therefore making them more powerful. The benefit for the entrepreneur is the management of shareholders.

6.2.6 Management of Funds

6.2.6.1 Holding Period/ Returns/Value Add

The concept of value add in private equity is one that makes private markets unique when compared to public markets. Active involvement in the company and long term commitment is required (Lerner et al., 2012). The end goal is to generate capital from profits from the sale of the investment (Gilligan & Write, 2010). As one can imagine it takes a long term to make fundamental changes to an organisation and so the returns must be worth the effort.

What was highlighted earlier is that the investee company must have these qualities to qualify for this process (Jones & Mlambo, 2013):

- Quality management quality
- Competitive product
- Good market
- Potential to increase returns

What then the intermediary brings to the table is the following (Jones & Mlambo, 2013):

- Own expertise
- Networks
- Suppliers
- Financing expertise
- Key personnel

Gompers et al (2016) then show that the outcomes of the intermediation are:

- Increase demand therefore revenue
- Improved incentives
- Follow-on acquisitions
- Facilitating high value exit
- Improve corporate governance
- Purchase price

What was found in the equity crowdfunding space is that the platform allows for the capture of information perceived to be pertinent by the platform to help identify the correct company to invest in. Contrary to findings by Valanciene and Jegeleviciute (2013), where they implied that there is no advice because the interaction is internet based, communication facilities are sometimes available to enable the interaction necessary to obtain required information. One

platform even goes as far as to send samples of products to investors. However, due to the adverse selection problem identified earlier (Ahlers et al, 2015), there may be no other way to verify information provided by the investee company. This is especially true for organisations that are not located within reach of each other. The cost of travel against the amount to be invested, may actually deter this effort.

Platforms offer mentorship, learning as well as marketing to the investee companies. This is essential. However, the quality of the platform and the expertise that lie behind it again become an important factor in how much value can actually be added to an organisation. A “good platform” will attract solid network of investors, who are willing and able to bring in the necessary expertise to improve an organisation. However, given the scale of investment, it is unlikely that extraordinary effort will be exerted by the investors on one deal, unless in itself is found to be extraordinary. A case of incentive compatibility.

6.2.6.2 Trading

So, like private markets, effort is put into creating value, to support or complement the platform, and unless the portal has been explicitly classified as a Mini IPO, Regulation A+ enforcing portal, as a pure equity crowdfunding portal, it is unlikely to offer the liquidity that parallels that of a public exchange.

6.2.7 Realisation of Gains

Similar to the private markets, there is no guaranteed way that the platform offers capabilities to exit out of an equity holding.

6.2.8 Summary

In reviewing the results of research question two of whether equity crowdfunding platforms resemble the outcomes of public markets the following can be noted.

The expectation was that using an equity crowdfunding platform would be cheaper for the entrepreneur (WEF, 2015), especially considering the disintermediation that the platforms are meant to bring. However, this is not necessarily the case. Without the exclusivity that exists in traditional private markets, yes, it is easier for entrepreneurs to access the platform and investor search costs are reduced for the investor. This supports why the listing costs should remain “free of charge” as found to be the case from most platforms.

But the quality of people and accounting support required is still similar to that of existing private markets. Information asymmetries exist and the investor is still taking a large risk through the investment. Liquidity and the cost of illiquidity are still not eliminated.

The added value is of a different nature. It is through the visibility and marketing of the organisation that the entrepreneur benefits. However, due to the number of investee companies listed, the attention received by each may not be as focused as in one large equity holding.

The above explains why, while it is easier for the intermediaries to raise capital, the mechanism is merely an enhancement to the sourcing of investment opportunities and making investments stage of investment process in the private market mechanisms.

6.3 Discussion of Research Question 2

Could one mechanism be an exit for or from another mechanism?

6.3.1 Allocative Efficiency

6.3.1.1 Market to market

When one looks at the national breakdown of SME investment in some G20 Countries (Ernst & Young, 2013), to see the amount of angel funding available and the total value, the findings indicate that not much has changed.

Firstly, US still has the number one spot with 2674 rounds of equity crowdfunding over time, which is aligned with the literature (Ernst & Young, 2013) which showed that in 2012 the US had the most amount of equity funding than most other countries. At the time, it had $92.49bn in total. It also has the most amount of funding for smaller companies than others. That was $43.89bn (that is, $23.79bn VC and $20.1bn Angel).

China followed with a total equity funding of $10.8bn IPO, $4.27bn VC, but no Angel funding (Ernst & Young, 2013). China data which are not represented in the Crunchbase data.

UK then follows with a total equity funding of $10.1bn, which can be broken down as $7.86bn IPO + $2.15bn VC and $0.09bn Angel funding (Ernst & Young, 2013). Equity crowdfunding deals in the UK, over time, amounted to 412.

Canada was next with 181 deals over time, while they had reported $1.23bn in VC funding in 2013 (Ernst & Young, 2013).

What the above indicates is that equity crowdfunding is popular in regions where equity funding for small companies is highly regarded to begin with. This includes developed countries like the US and UK.

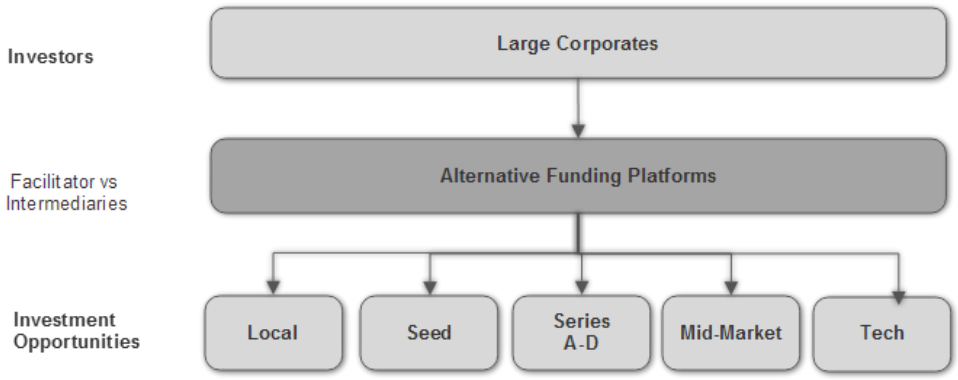
Over and above the adverse selection (Ahlers, et al 2015), the problem identified earlier in the literature review, another insight can be noted: a problem of allocative efficiency. It potentially exists between the developed economies like the US and developing economies like South Africa. Funds for SMEs exist while there is a shortage in less developed economies. The potential exists for crowdfunding to be an enabler of such an allocation. This was also evident

in the qualitative results, where the most successful of these portals with a high average raise, includes a platform that represents countries from more than 100 countries.

6.3.2 Corporate to Equity Crowdfunding Platform

Large corporates are using the equity crowdfunding platforms to target acquisitions and follow through on them. Camden Town Brewery, raised funds to the tune of 84 million pounds through Crowdcube. Eight months later, a large corporate AB InBev successfully acquired it. Similarly, E-car Club, was sold to Europcar in 2015. This confirms the findings by Décarre and Wetterhag (2014) that the platforms offer a PR effect increasing visibility of the firm. Not only from a marketing and product promotional angle. The two examples indicate more of what Mollick and Robb (2016) had found, which was that the consumers' willingness to pay for a product indicate a steady flow of cash into the business, which attracts potential acquisitions.

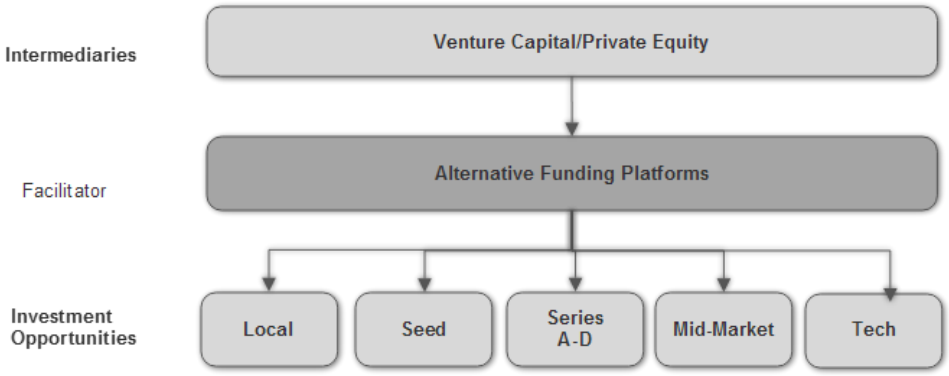
Figure 22. Market Place for Acquisitions



Much like listing on an exchange can represent an important milestone of financial success for the company, its shareholders and the executives (Moon, 2006), an acquisition could represent such success for the crowd investors. Sixty-three crowd investors from E-car Club received multiple returns on their investment.

Something that is touched on in the allocative efficiency section is also the wide access that the platform provides. One of noteworthy users of the platforms include intermediaries who described as facilitators. As indicated in Figure 23, below, they basically use the platforms to look for deals. In this scenario there is a risk that the wisdom of the crowd is taken away from the crowd, as there VC or PE firm is still an intermediary to the platform.

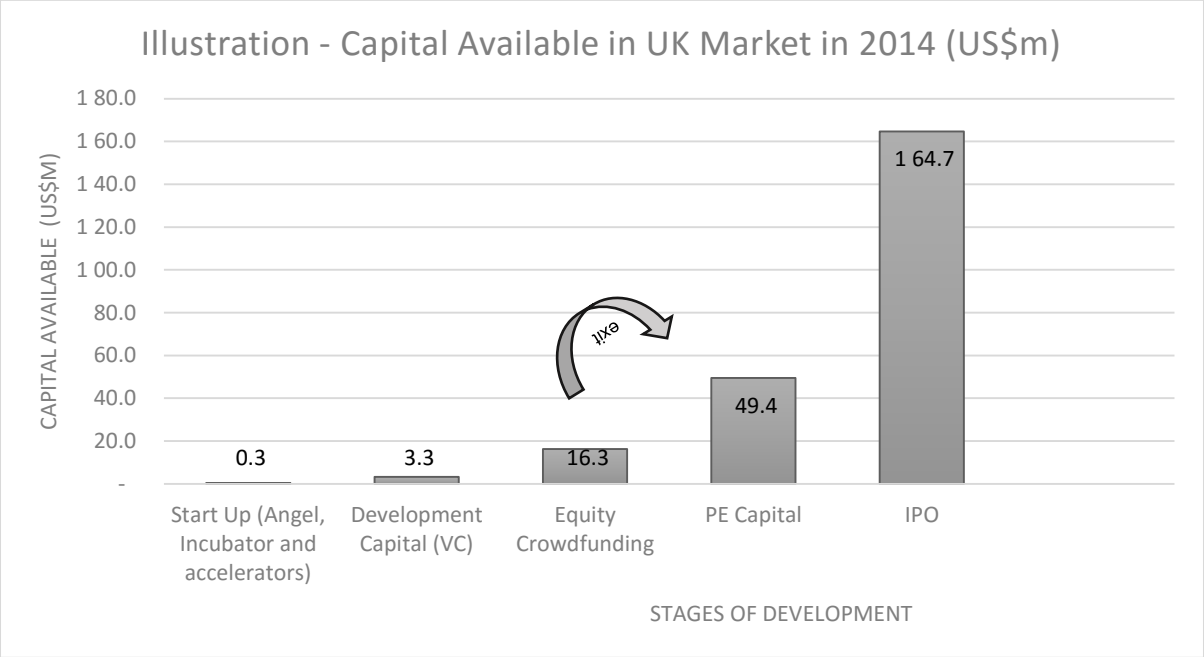
Figure 23. Increased Access: Users of Equity Crowdfunding Platforms



6.3.3 Stage of Development

The study began by looking at the stages of development or business life cycle to identify funding options available in the UK Market as an illustration (Ernst & Young LLP, 2014) and where in these stages, equity crowdfunding could fit in (Ernst & Young, 2014; Tomczak & Brem, 2013). Results from the both the quantitative and qualitative analysis support this research. The equity crowdfunding mean of 961 thousand US dollars found in secondary data (Table 18. Statistics by Funding Code, page 77) is not vastly different to average of eight platforms that reported their average raise, indicating an overall average raise of 957,5 thousand US dollars (Table 8. Description of Platforms Observed, page 36). If one compares the maximum raise of 163 million US dollars (Table 18. Statistics by Funding Code, page 77) to the capital available in the UK market at different stages of development (Figure 1, page 3, with pounds converted to US dollars at an exchange rate of 1.647394, the average from 2014), it puts in an integrated market, described by Sanyal et al. (2015) and Dorodnykh (2013), equity crowdfunding as a good option to explore before one has to look at private equity to raise funds, in an integrated UK market as an example.

Figure 24. Stage of Development for an Integrated Equity Crowdfunding



When one looks at the mode which sits at 100 thousand dollars, in cognisant of the above, it becomes clear that equity crowdfunding is also a potential alternative for start up funding as well as developmental capital which is VC, which range from nothing to 0.3 million dollars and from 0.3 million dollars to 3.3 million dollars respectively.

6.3.4 CoIntegration of Equity Funding Mechanisms

The results of the cointegration test show that equity crowdfunding mechanisms have a similar trend to other equity funding mechanisms. This implies that an issuer can, in the long run, have similar expectations in trends in terms of availability of equity funding as in other methods of equity funding.

This also positions equity crowdfunding as a solid alternate equity funding mechanism to the traditional methods of equity funding. Although equity crowdfunding cannot be statistically confirmed as an alternative for one specific traditional mechanism, in the short run.

The results also imply that equity crowdfunding can be expected to be as cyclical, as other equity funding mechanisms, where acting at the right time is important for planning exits and fund raising (Lerner et al., 2012; Ernst & Young, 2016b). This potentially implies that if one looks at a similar period, the macro economic impact on returns which can be expected to be similar to other forms of equity funding.

It is also worth noting that equity crowdfunding began in 2006 and has been increasing even after the debt crisis of 2008, this is over and above the impact the debt crisis has had on developing countries like the US. This emphasises the investment philosophy that equities are not a contractual sequence of nominal cash flows and can provide the real economic growth supporting findings from (Sariannidis et al., 2009; Sariannidis, 2010; Lerner et al., 2012; Khan, 2012; Joachim, 2015; and Nyasha & Odhiambo, 2015)

7 Chapter Seven: Summary and Recommendations

7.1 Principal Findings

The data presented and analysed in the study was useful in uncovering some noteworthy findings. This mixed method based data was from a qualitative study on equity crowdfunding platforms and a quantitative study on secondary data.

7.1.1 Research Question 1

In equity crowdfunding, information gaps and a problem of adverse selection (Ahlers et al., 2015) exist. As a result, the crowdfunding markets tend to act like the private markets where continuous valuation and pricing is not possible (Lerner et al., 2012). What the study found is that platforms act to try and fill these gaps but are not necessarily successful, especially where they are not regulated.

To support a number of studies done before on increased access (Valanciene and Jegeleviciute, 2013; Décarre and Wetterhag, 2014; Ahlers et al., 2015; and Donovan, 2016), allocative efficiency is confirmed as having an impact to the equity investments process. Better yet, to enhance the WEF (2015) research, as this mechanism evolves, this study shows a that diverse number of participants are able to connect with each other and benefit from the increased access, which includes: angel groups and accelerators.

Valanciene and Jegeleviciute (2013) had noted that the accounting and administration of the platforms is one of its weaknesses. Some headways in this regard include what French regulation has called Simplified Joint Stock Companies (SAS) to be created, which consolidate the shareholding. A similar structure is available in the Netherlands. The administration still sits with the platform but, it helps that the entrepreneur does not have to do it because that would discourage usage of the platforms.

Although it's not as bad as described by Valanciene and Jegeleviciute (2013), that there is no advice because its only internet based, some initiatives have been put to practice. They include: automated screening, automated performance reporting, product sampling, mentorship, among others and there is an opportunity to improve the communication between investor and investee. This will allow for and improve the value add that an investor can add.

In terms of cost then what was found is that there are listing costs as in public markets and there are management and value add costs as in private markets, depending on the nature of the platform.

7.1.2 Research Question 2

Findings show that equity crowdfunding is popular in developed economies, like US and UK, where funding for small companies was already high, as per the study done by Ernst & Young in 2013. The potential exists for the platforms to act as efficient allocators of funds from developed to developing countries where funds are limited. This can happen better if the platforms are global and integrated, which is a trend as stock exchanges are forced to explore (Dorodnykh, 2013). One such platform, which has overcome the issues of integration, has the highest average raise of sample that was explored.

With the increased access, platforms are attracting other parties from other mechanisms to use the platforms differently than initially envisaged. The platforms are used as a market place for acquisitions. So exits, happen in the form of mergers and acquisitions.

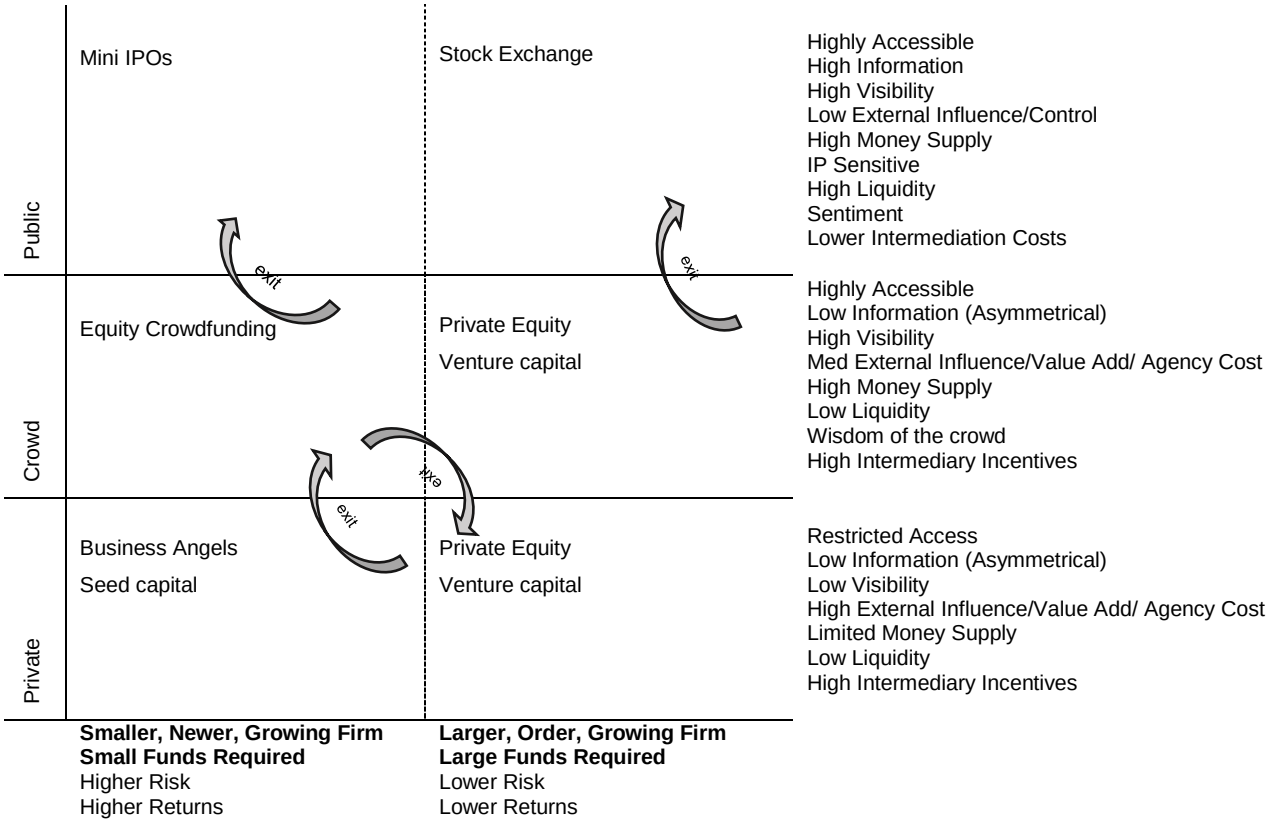
7.1.3 Aspects of Equity Crowdfunding

Given the literature and key findings from the study, the following characteristics describe equity crowdfunding in the equity capital arena:

- high access
- information asymmetry
- high visibility
- mid-level of influence
- high money supply
- low liquidity
- wisdom of the crowd
- potentially high intermediary incentives

The diagram below shows in graphical format given the information from the study where equity crowdfunding potentially fits in given the different scenarios that were explored.

Figure 25. Characteristics of Equity Crowdfunding in Equity Capital Arena



Source: Author

In terms of suitability, this option offers access that gives best of both worlds. On one hand there is access to funding and on another there are options available to grow the business beyond an idea and through the valley of death.

7.2 Implications for Theory

This research project has been a good exercise in applying the mechanism design theory, the engineering side of economics. Through it, it was found that allocative efficiency can be facilitated by allowing integration of financial markets, for example moving funds from developed economies to developing economies. To eliminate adverse selection that currently exists in equity crowdfunding markets, standard requirements for disclosure are necessary supported by incentives to share information. Moral hazard can also be eliminated by incentive to act obediently. The revelation principle also came through in that equity crowdfunding allows for different information, preferences, and resources that people have, to result in different games and many different “mechanisms” to form. Lastly, an all-important note about the survival of equity crowdfunding platforms in that with incentive compatibility mechanism, “good platforms”, that is, those that are trustworthy mediators, will survive.

7.3 Implications for Entrepreneurs

This study was conducted with the entrepreneur in mind, however, due to the fact that for an efficient mechanism is a mediator to at least two parties, the study had to be cognisant of the impact on other perspectives.

- Searching for the appropriate equity crowdfunding mechanism for your business is not simple given the specialised areas of focus they can come in.
- Assumptions cannot be made around ease of access to funding from other parts of the world as yet. Perhaps over time, when regulation allows for integration mechanisms to work together. For now, platforms restrict access to entrepreneurs and investors from their country of operation.
- Listing on a platform has many benefits, other than just access to funding. Other possibilities include marketing of products and services, marketing of the business itself: illustrating its steady flow of cash, attracting mentors, and accelerators. All of which can help grow a business organically or by mergers and acquisitions process.
- Through the public nature of the platforms, the traditional mechanisms of raising funding the private market presented risks which were beneficial to the intermediary in terms of returns but would leave the business highly in debt, therefore damaging the business. This option alleviates this issue.
- Intellectual property sensitivity is not guaranteed however, patents can legally protect and increase the attractiveness of a business. Further, there are many “tech”, digital, e-commerce businesses listed on the platforms.
- In the South African context, where broad based employment equity is encouraged, to help reduce the gini coefficient, the platforms can be used to obtain this ownership; and this can be done while maintaining control and/ or ownership of the business.
- Once the company is at a point where the founders need to cash out either due to financial situations or succession, the visibility to larger organisation, like AB InBev, who are looking to dominate the world stage becomes easier. In the past the organisation needed to know someone who knows someone, becomes a thing of the past. If the organisation is seeking to make an acquisition, they can find the small business of the platform.
- If an entrepreneur finds the right platform, based on the unique services, e.g. biotech, and popularity of the platform, implying that many people find it to be a trust worthy mediator, which facilitates the objective of the mechanism (equity financing to small businesses), they need to take full advantage of that platform by exploiting its capabilities to the fullest extent. This includes submitting the necessary information,

showcasing that the products are competitive, showing up the entrepreneur's skills and management capabilities, showing there is a good market for the product, and there is potential for increased returns for investors. This can be done in many ways that exist: product sampling, financial information, chats to investors, chats to mentors, accessing accelerators, and taking advantage of expertise, networks, suppliers and key personnel. The challenge that these organisations (investors or platforms) will face is dedicating time and effort to each of the investee companies.

- Dealing with shareholders may be easier through a platform that offers a form of joint ownership, like the joint share ownership schemes in France and Netherlands, to manage all of the shareholder administrative information on the entrepreneur' behalf.
- The platforms are not necessarily cheaper, however, if an entrepreneur has ambitions of listing their company one day, the discipline of running an organisation with the same level of transparency and governance in mind, it makes the company more attractive to the next stage of funders.

Entrepreneurship is a much needed input into increasing the economic growth rate as well as the GDP per capita, which is something that could be of significant impact in a country like South Africa with a high gini coefficient.

7.4 Implications for Equity Crowdfunding Platform Management

What the above means for creators and managers of equity crowdfunding platforms is the following:

- Standard methods of collecting data, that comply to the law (e.g. Regulation Crowdfunding) which includes: certified financial statements; draft business write up with financial forecasts; meeting with the buy-side and choosing an underwriter, but also allow for the organisation to reveal more about: management, the product's competitiveness, good market and the ability to generate returns. This includes secondary data collectors such as the one used in the study, crunchbase.
- Ensure that the costs justify value that the parties are receiving from the platform.

Given the amount of information that can be put out there for various parties, be it on the supply side or the demand side, deciding on which information is critical to the success of an electronic communication mechanism.

7.5 Implications for Other Stakeholders

If a country, take South Africa as an example, does not have the funding for small businesses available in its own country, it does not mean that the funds will suddenly be available when the equity crowdfunding platforms are created. Instead once the platforms are created, they need to be able to attract funds from other countries.

A developing economy like South Africa, will benefit from the use of equity crowdfunding platforms to facilitate economic development. It would be beneficial if its government supported the creation of such platforms, ensured that the regulation is in line with the requirements of an efficient equity funding mechanism, ensured that they integrate regulation with other countries and lastly help with the marketing of these platforms in developed countries.

The introduction of equity crowdfunding platforms does not necessarily disintermediate traditional funding suppliers, that is private equity firms and venture capitalists, instead it enhances the process and makes it easier to raise funds. This means that if a private markets organisation does not adopt it, it may find itself disintermediated as it may be unable to raise funds.

Mergers and acquisitions teams within large corporates also sit in the same position as private equity companies and venture capitalists. If they do not look into what the platforms have to offer, then they will lose out on potential acquisition deals.

7.6 Limitations of the Study

While the study offers valuable insights into the nascent and fast evolving equity crowdfunding mechanism. Limitations included:

- The collection of a point in time data is biased to the moment in time. It would be useful to frame the study over time.
- The accuracy and completeness as well as potential bias that comes with secondary data.

7.7 Suggestions for Future Research

From a scholarly perspective, the body of knowledge of equity crowdfunding could be strengthened through:

- As time passes, improvements in the platforms are expected, new and improved platforms are being developed, all these improvements enhance this funding

mechanism. It would be worthwhile to conduct the study once equity crowdfunding has developed even further, with more users to determine which platforms have survived, thrived or have not made it at all, and if those reasons could be linked to mechanism design.

- A repeat of the study using a different data set. Different data sets such as Thompson Reuters, which is already widely used in business and research are being developed. The additional component of equity crowdfunding, which they have begun to integrate, allows for further detailed comparison to be conducted at company level.
- Case based equity crowdfunding studies which profile dynamics of a partnership where a large acquisition is made, an accelerator is used, for example and the impact on the investee company.
- Even further, in time what would be interesting is the impact (in terms of percentage contribution to: GDP growth rate; employment; and foreign direct investment among others) of equity crowdfunding to developing economies.

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9 Appendix A. Statistical Results

Table 16. Frequencies and Descriptive Statistics

		Raised Amount USD	Year Announced On
N	Valid	112768	140037
	Missing	27289	20
Mean		10781921.170000000000000	2011.56
Median		1800000.000000000000000	2013.00
Mode		1000000.000000000000000	2014
Percentiles	25	350000.000000000000000	2010.00
	50	1800000.000000000000000	2013.00
	75	7500000.000000000000000	2014.00

Table 17. Descriptive Statistics

Descriptive Statistics	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
raised_amount_usd	112768	21271935000.000000000000	.000000000000000	21271935000.000000000000	10781921.170000000000000	92408479.140000000000000	8539327016000000.000	124.894	.007	25654.081	.015
Year Announced On	140037	48	1968	2016	2011.56	3.971	15.772	-1.500	.007	2.593	.013
Valid N (listwise)	112768										

Table 18. Statistics by Funding Code

Funding Round Type Code		1.00	2.00	3.00
N	Valid	59761	1338	5577
	Missing	8508	2326	1572
Mean		12272892.942683400000000	961123.984893563000000	712658.441221186000000
Median		5025999.000000000000000	241606.536633144000000	400000.000000000000000
Mode		10000000.000000000000000	100000.000000000000000	500000.000000000000000
Std. Deviation		40482988.769946200000000	5092531.203300290000000	1065156.590319720000000
Variance		1638872379747590.000	25933874056587.100	1134558561901.540
Skewness		43.131	25.388	8.389
Std. Error of Skewness		0.010	0.067	0.033
Kurtosis		3557.269	776.711	187.363
Std. Error of Kurtosis		0.020	0.134	0.066
Range		4500000000.000000000000000	163000000.000000000000000	34000000.000000000000000
Minimum		0.000000000000000	0.000000000000000	0.000000000000000
Maximum		4500000000.000000000000000	163000000.000000000000000	34000000.000000000000000
Percentiles	25	1800000.000000000000000	64376.866005851800000	150000.000000000000000
	50	5025999.000000000000000	241606.536633144000000	400000.000000000000000
	75	12700000.000000000000000	707480.877254738000000	930000.000000000000000

Funding Round Type Code		4.00	5.00	6.00
N	Valid	1996	910	28421
	Missing	441	22	8894
Mean		82595104.902994300000000	73365093.975461600000000	717685.430849555000000
Median		25000000.000000000000000	12000000.000000000000000	300000.000000000000000
Mode		100000000.000000000000000	10000000.000000000000000	1000000.000000000000000
Std. Deviation		217446311.933557000000000	287856052.004538000000000	1409766.437573720000000
Variance		47282898573505700.000	82861106675639500.000	1987441408509.290
Skewness		10.560	11.277	23.499
Std. Error of Skewness		0.055	0.081	0.015
Kurtosis		160.939	158.932	1234.191
Std. Error of Kurtosis		0.110	0.162	0.029
Range		4499990000.000000000000000	4749989500.000000000000000	100000000.000000000000000
Minimum		10000.000000000000000	10500.000000000000000	0.000000000000000
Maximum		4500000000.000000000000000	4750000000.000000000000000	100000000.000000000000000
Percentiles	25	7418655.913174770000000	3706266.250000000000000	65000.000000000000000
	50	25000000.000000000000000	12000000.000000000000000	300000.000000000000000
	75	80000000.000000000000000	40686325.500000000000000	1000000.000000000000000

Table 19. Normality Tests by Funding Round Type Code

	Funding Round Type Code	Kolmogorov-Smirnova			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
raised_amount_usd	1.00	.381	59761	.000			
	2.00	.425	1338	.000	.116	1338	.000
	3.00	.252	5577	.000			
	4.00	.352	1996	.000	.322	1996	.000
	5.00	.399	910	.000	.218	910	.000
	6.00	.305	28421	.000			

a. Lilliefors Significance Correction

Table 20. Normality Tests

Normality Test	Score	C.V.	P-Value	Pass?	5.0%
Jarque-Bera	9767.78	5.99	0.0%	FALSE	
Shapiro-Wilk	0.34	#N/A	0.0%	FALSE	
Doornick Chi-Square	2020.26	5.99	0.0%	FALSE	

Table 21. Normality Tests of Data from 2010

Normality Test	Score	C.V.	P-Value	Pass?	5.0%
Jarque-Bera	78.86	5.99	0.0%	FALSE	
Shapiro-Wilk	0.64	#N/A	0.0%	FALSE	
Doornick Chi-Square	64.59	5.99	0.0%	FALSE	

Table 22. Kruskal Wallis Test: Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Mean Rank
1	The medians of raised_amount_usd are the same across categories of Funding Round Type Code	Independent Samples Median Test	.000	Reject the null hypothesis.
2	The distribution of raised_amount_usd is the same across categories of Funding Round Type Code	Independent Samples Kruskal - wallis Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05

Table 23. Kruskal Wallis Test by Funding Round Type Code

Ranks	Funding Round Type Code	N	Mean Rank
raised_amount_usd	1.00	59761	62336.86
	2.00	1338	22299.73
	3.00	5577	25609.76
	4.00	1996	82584.82
	5.00	910	74520.00
	6.00	28421	23634.45
	Total	98003	

Test Statistics[a,b]	raised_amount_usd
Chi-Square	44690.046
df	5
Asymp. Sig.	.000

a. Kruskal Wallis Test
b. Grouping Variable: Funding Round Type Code

Table 24. Medians Test

Frequencies		Funding Round Type Code					
		1.00	2.00	3.00	4.00	5.00	6.00
raised_amount_usd	> Median	42799	119	357	1869	765	2218
	<= Median	16962	1219	5220	127	145	26203

Test Statistics[a]	raised_amount_usd
N	98003
Median	2000000.000000000000000
Chi-Square	38480.245[b]
df	5
Asymp. Sig.	.000

a. Grouping Variable: Funding Round Type Code

b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 446.9.

		Funding Round Type Code					
		1	2	3	4	5	6
raised_amount_usd	> Median	72%	9%	6%	94%	84%	8%
	<= Median	28%	91%	94%	6%	16%	92%

10 Appendix B. Statistical Results for Equity Crowdfunding Only

Table 25. Frequencies & Descriptive Statistics for Equity Crowdfunding Only

Statistics		raised_amount_usd	Year Announced On
N	Valid	1338	3664
	Missing	2326	0
Mean		961123.984900000000000	2013.55
Median		241606.536600000020000	2014.00
Mode		100000.000000000000000	2014
Std. Deviation		5092531.203000000000000	1.603
Variance		25933874060000.000	2.569
Skewness		25.388	-1.261
Std. Error of Skewness		.067	.040
Kurtosis		776.711	2.439
Std. Error of Kurtosis		.134	.081
Range		163000000.000000000000000	12
Minimum		.000000000000000	2004
Percentiles	25	64376.866010000000000	2013.00
	50	241606.536600000020000	2014.00
	75	707480.877300000000000	2015.00

Table 26. Frequencies by Country for Equity Crowdfunding Only

Country		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		148	4.0	4.0	4.0
	ARE	3	.1	.1	4.1
	ARG	1	.0	.0	4.1
	AUS	12	.3	.3	4.5
	BEL	2	.1	.1	4.5
	BGR	2	.1	.1	4.6
	BHR	1	.0	.0	4.6
	BLZ	1	.0	.0	4.6
	BRA	3	.1	.1	4.7
	BWA	1	.0	.0	4.7
	CAN	181	4.9	4.9	9.7
	CHE	6	.2	.2	9.9
	CHL	3	.1	.1	9.9
	CHN	4	.1	.1	10.0
	CRI	2	.1	.1	10.1
	CYP	1	.0	.0	10.1
	DEU	21	.6	.6	10.7
	DNK	2	.1	.1	10.8
	DOM	1	.0	.0	10.8
	ESP	22	.6	.6	11.4
	FIN	11	.3	.3	11.7
	FRA	12	.3	.3	12.0
	GBR	412	11.2	11.2	23.3
	GEO	1	.0	.0	23.3
	GHA	1	.0	.0	23.3
	IDN	2	.1	.1	23.4
	IND	26	.7	.7	24.1
	IRL	4	.1	.1	24.2
	ISR	12	.3	.3	24.5
	ITA	6	.2	.2	24.7
	JPN	2	.1	.1	24.7
	KEN	2	.1	.1	24.8
	KHM	1	.0	.0	24.8
	KOR	2	.1	.1	24.9
	LTU	1	.0	.0	24.9
	MDA	1	.0	.0	24.9
	MEX	6	.2	.2	25.1
	MLI	1	.0	.0	25.1
	MLT	1	.0	.0	25.1
	MUS	1	.0	.0	25.2

Country		Frequency	Percent	Valid Percent	Cumulative Percent
	NGA	6	.2	.2	25.3
	NLD	17	.5	.5	25.8
	NZL	11	.3	.3	26.1
	PAK	3	.1	.1	26.2
	POL	1	.0	.0	26.2
	ROM	3	.1	.1	26.3
	RUS	2	.1	.1	26.3
	RWA	1	.0	.0	26.4
	SGP	4	.1	.1	26.5
	SWE	9	.2	.2	26.7
	UGA	2	.1	.1	26.8
	UKR	2	.1	.1	26.8
	URY	1	.0	.0	26.9
	USA	2674	73.0	73.0	99.8
	ZAF	4	.1	.1	99.9
	ZWE	2	.1	.1	100.0
	Total	3664	100.0	100.0	

Table 27. Normality Tests for Equity Crowdfunding Only

Normality Test	Score	C.V.	P-Value	Pass?	5.0%
Jarque-Bera	183.25	5.99	0.0%	FALSE	
Shapiro-Wilk	0.31	#N/A	0.0%	FALSE	
Doornick Chi-Square	346.51	5.99	0.0%	FALSE	

Table 28. Normality Tests for Equity Crowdfunding Data from 2010

Normality Test	Score	C.V.	P-Value	Pass?	5.0%
Jarque-Bera	1.05	5.99	59.1%	TRUE	
Shapiro-Wilk	0.82	#N/A	7.1%	TRUE	
Doornick Chi-Square	#N/A	5.99	#N/A	#N/A	

11 Appendix C. Platforms from the Secondary Data Set

Table 29. Equity Crowdfunding Platforms in Secondary Data Set

	2011	2012	2013	2014	2015	2016
Abdullaziz Samir						2000
AgFunder				7800000		
Angels Den						1779010
Angels Den, Crowdcube				499367.5		
Anna Nadmyr					200000	
Astutia Ventures			4077646			
Berlin Metropolitan Ventures, Seedmatch			333016.6			
Christopher Isak	131204.4		722272.2	4099999		543519.6
CircleUp					2500000	
Citigroup						14320965
Crowdcube	2087215	3310104	13660237	37179674	1.15E+08	54360253
Crowdcube, Episode 1, Maxfield Capital					3979397	
Crowdcube, Paul Mears				1077901		
Crowdcube, Peter Howitt					264287.5	
Crowdcube, Pi Campus, Pi Campus				1225283		
Crowdcube, Yannick Roux				519459		
Dan Shapiro					27400000	
Fabrice Grinda, Crowdcube, DN Capital				2636439		
Finindustria						56863.63
FundedByMe					61138.28	
Funding Tree				705373	150830	
Herman Hauser				984913		
Hoolders						
Impact Hub Milan					148813.4	
James Sore, Seedrs				385210		
John D'Orazio						
Lead - Crowdcube				2432103		
Lead - Mustard Seed, Crowdcube					766436.9	
Lead - Venovate, Crowdcube				9852474		
Mary Waldner, Derek Proudian, AgFunder, Brad Feld				350000		
Mediaset			2343679			
Miller Research (UK) Ltd, S4C Digital Media, Finance Wales Investments						
Nissay Capital				5800000		
North Coast Angel Fund			1250000			
Nutrafarms Reviews						
Ole Schaumberg, Alexander Djordjevic, Andreas Brandt			225956.1			
OurCrowd			1100000	1200000	1500000	
OurCrowd, Carmel Ventures, Beringea, Accel, Index Ventures, InvestMichigan, Mistral Equity Partners		748000				
Pepins Group AB						15260000

	2011	2012	2013	2014	2015	2016
ProSiebenSat.1 Accelerator						784076.5
Ranjit Singh Chadha					25000	
RockThePost				50000		
SeedInvest				7000000		
Seedrs		74390.53	488520.6	3040983	2568820	
Seedrs, Crowdcube						2678014
Seedrs, Faber Ventures			4180823			
Seedrs, James Sore				116635		
Seedrs, Juno Capital				1715874		
Seedrs, Wayra			80148			
SellanApp				13160		
Shawn Merani, KohFounders, AngelList				1000000		
Simone Cimminelli					111590.1	
Snowball Effect						3424400
Steelpoint Capital Partners				1180000		
SyndicateRoom				8227485	22389746	
Teoh Family, VentureCrowd						5000000
The Accelerator Group, Index Ventures, Passion Capital					3235004	
The Bruckal Group				1000000		
Undisclosed, Paul Mears					577250.4	
Venture Founders				1551087	5902638	
VentureCrowd				1200000	3261764	
Walled Bastaki						
Wayra				648595		
Worth Capital, Seedrs				155529		
Zvi Schreiber, OurCrowd		1700000				

Table 30. The Platforms Represented in Qualitative and Quantitative Data Obtained

Case	country_code	region	city	investment_count	founded_on
1	USA	SF Bay Area	San Francisco	9	2012-04-18
2	USA	Columbus, Ohio	Powell	3	2012-05-22
3	USA	New York City	New York	64	2011-05-01
7	ISR	Tel Aviv	Jerusalem	91	2013-02-01
8	GBR	Exeter	Exeter	405	2010-08-01
10	NLD	Rotterdam	Rotterdam	2	2011-01-01
12	DEU	Dresden	Dresden	5	2009-09-15
13	FRA	Toulouse	Toulouse	3	2008-05-22
Pilot	GBR	London	London	296	2009-03-16