Grundy & Ohmer, *Cogent Business & Management* (2016), 3: 1138849
http://dx.doi.org/10.1080/23311975.2016.1138849

cogent business & management

MANAGEMENT | RESEARCH ARTICLE

German crowd-investing platforms: Literature review and survey

David Grundy[1*] and Carolina Ohmer[1]

Received: 03 November 2015
Accepted: 23 December 2015
Published: 29 January 2016

*Corresponding author: David Grundy, Newcastle Business School, Northumbria University, City Campus East 1, Newcastle upon Tyne, NE1 8ST, UK
E-mail: david.grundy@northumbria.ac.uk

Reviewing editor:
Tahir Nisar, University of Southampton, UK

Additional information is available at the end of the article

Abstract: This article presents a comprehensive overview of the current German crowd-investing market drawing on a data-set of 31 crowd-investing platforms including the analysis of 265 completed projects. While crowd-investing market still only represents a niche in the German venture capital market, there is potential for an increase in both market volume and in average project investment. The market share is distributed among a few crowd-investing platforms with high entry barriers for new platforms although platforms that specialise in certain sectors have managed to successfully enter the market. German crowd-investing platforms are found to promote mainly internet-based enterprises (36%) followed by projects in real estate (24%) and green projects (19%), with the median money raised 100,000 euro.

Subjects: Entrepreneurial Finance; Entrepreneurship; Small Business Management

Keywords: crowd-investing; crowd-investing platforms; German entrepreneurship

1. Introduction

Entrepreneurial activity is crucial for economic growth (Carree & Thurik, 2010; Wennekers & Thurik, 1999). This emphasises the importance for economies to encourage entrepreneurial culture and provide useful support mechanisms. Entrepreneurs, as founders and owners of businesses, play a key role as innovators and initiators of economic development (Carland, Carland, & Hoy, 2002; Mohanty, 2005). However, throughout the founding process, entrepreneurs encounter a number of difficulties including securing financing sources, for both equity and debt, especially in early stage

David Grundy

ABOUT THE AUTHORS

Dr. David Grundy is a Principal Lecturer at Newcastle Business School investigating customer retention, commitment, trust, membership and community building & management in both online and offline environments for both businesses and the public sector.

Carolina Ohmer is an entrepreneur and charity fund-raiser studying a postgraduate dual degree for both a Masters of International Finance and Entrepreneurship at the University of Kaiserslautern in Germany and a Masters in Global Financial Management at Northumbria University.

PUBLIC INTEREST STATEMENT

To the dismay of national policy-makers Germany is a highly developed economy which has very much struggled to replicate rates of new business start-ups seen in comparable nations despite a high skills and education base. This article adds to the on-going debate regarding usefulness to entrepreneurs of crowd-funding platforms by examining the ability of crowd-investing platforms to address the classic early stage financing gap. While most existing papers concentrate on the US experiences of crowd-investing, this paper provides a substantial addition to the understanding of the German crowd-investing situation by uniquely highlighting and summarising key German literature in the area which is scarcely mentioned in the fast emerging literature in this area. This article then provides current survey data on the key entrepreneurial aspects of German crowd-investing platforms, which is a highly under-researched area with almost all academic research devoted to US-based platforms.

financing (Belleflamme, Lambert, & Schwienbacher, 2014; Macht & Weatherston, 2014). The reduced access to external capital, caused for instance by lack of interest from business angels on account of too small amounts, often creates a funding gap (Collins & Pierrakis, 2012).

According to Pope (2011), more than 97% of entrepreneurs fail in the attempt to obtain angel capital. Additionally, in the aftermath of the financial crisis it has become increasingly challenging for entrepreneurs to acquire bank loans to overcome funding gaps. In recent years however, crowd-funding has emerged as novel funding source through which entrepreneurs can acquire external capital through an open call via internet (Schwienbacher & Larralde, 2012; Tomczak & Brem, 2013). Particularly equity-based crowd-funding, also known as crowd-investing, a subtype of crowd-funding, has been identified as conceivable alternative financing method to other sources of external equity (Kortleben & Vollmar, 2012). The current economic environment, where on the one hand entrepreneurs are forced to search for new financing sources, and on the other hand investors demand new investment opportunities, due to low interest rates and high market uncertainties, could encourage the growth of crowd-investing (Hagedorn & Pinkwart, 2013). Consequently, crowd-investing could enhance entrepreneurial culture, especially in countries such as Germany where support mechanisms for entrepreneurs are still poorly developed (German Startups Association, 2014). In this context, crowd-funding platforms, or more specific, crowd-investing platforms could play a key role for the growth of the sector in their function as intermediaries between investors and entrepreneurs.

While crowd-investing in general is rapidly growing and evolving, literature in this area is still relatively sparse (Mollick, 2014). Nevertheless, the growing importance of the crowd-funding sector, emphasises the necessity of further research in order to contribute to the state of knowledge and keep pace with changes of this innovative financing method. Hence, the objective of this article is to provide an overview of the German crowd-investing market and analyse the suitability of crowd-investing platforms for entrepreneurs. The underlying purpose is thereby to give an account of the current status of German crowd-investing to enable a categorisation, and thus a better evaluation regarding the potential of crowd-investing as funding source. There are few reports and studies on crowd-funding outside of the US. One comprehensive report on crowd-funding in relevant European countries, including Germany, was conducted by *Ernst and Young* on behalf of the University of Cambridge (Wardrop, Zhang, Rau, & Gray, 2015). Research was also undertaken on German crowd-funding, including crowd-investing, through a Delphi study focused on the potential of crowd-funding (Blohm et al., 2015) and an analysis of the market development (Hölzner, Kortleben, & Biering, 2014). The European Commission, for instance, is currently undertaking a study to analyse the risks and potentials of Crowd-funding (European Commission, 2015).

Not surprisingly, the literature on crowd-investing, which only represents a small proportion of the crowd-funding market, is even more limited (Feller, Gleasure, & Treacy, 2013). Several academic articles on crowd-investing, which depict the concept from an entrepreneural view, focus on legal regulations, especially the JOBS Act (Bradford, 2012; Cohn, 2012; Kassinger, Kaufmann, & Traeger, 2013; Martin, 2012) or crowd-investing as financing method (Belleflamme, Lambert, & Schwienbacher, 2010; Schwienbacher & Larralde, 2012). Furthermore, some articles provide an overview of the crowd-funding research, categorising relevant literature by the participating actors in the process (Moritz & Block, 2014) or the different subtypes of crowd-funding (Feller et al., 2013). In most articles on crowd-funding in general however, crowd-investing is not mentioned (Hagedorn & Pinkwart, 2013).

Similar to international literature on crowd-investing, German literature focuses on legal conditions (Hornuf, 2012), on the potential of crowd-investing for filling the equity gap (Dorfleitner, Kapitz, & Wimmer, 2014; Hagedorn & Pinkwart, 2013; Kortleben & Vollmar, 2012) and on providing a comprehensive overview of the concept and subforms of crowd-funding (Hemer, 2011; Hemer, Schneider, Dornbusch, & Frey, 2011; Klöhn & Hornuf, 2012). Furthermore, the website www.fuer-gruender.de, which provides support for entrepreneurs, releases quarterly figures on crowd-funding. With the exception of these figures however, the different articles, evince the continuous need for research to ensure constant topicality. Hagedorn and Pinkwart (2013) for instance, provided a detailed examination of all, at that time 11, German crowd-investing platforms. At the present moment however, the crowd-investing market has almost tripled to 31 platforms, even though most of them do not have a significant market share. Furthermore, Kortleben and Vollmar (2012), categorised crowd-investing as funding source after friends and family financing but before angel financing, arguing that only smaller amounts can be raised through "the crowd", compared to venture capital were business angels invest average sums of 200,000 euros and venture capitalists sums above 500,000 euros. Although the categorisation of crowd-investing in seed and early stages still holds true, developments in the sector show the demand for a modification of crowd-investing as financing tool within the business cycle. *Seedmatch* for example successfully completed a project amounting for 3 million euros and *Companisto* even managed to raise 7.5 million euros for a project completed in July 2014 (Companisto, 2015; Seedmatch, 2015).

Overall German crowd-investing in general is still a largely un-researched area, which at the same time is rapidly expanding and evolving. Therefore, this article aims to contribute to crowd-funding literature by providing an overview of the German crowd-investing market and analysing crowd-investing platforms predominantely from an entrepreneurial perspective. The focus is thereby put on crowd-investing, whereas the terms crowd-investing and equity-based crowd-funding are applied interchangeably.

Additionally, the analysis is intended to enhance the assessment of crowd-investing platforms, to identify whether platforms are a suitable financing alternative for entrepreneurs and to support funders in the selection process. Consequentally, this article (1) provides a comprehensive analysis of the potential of crowd-investing as funding method in Germany, (2) analyses a census sample study where the German crowd-investing market, which consists of 31 platforms, and (3) presents a basis for the classification and evaluation of the German crowd-investing market.

2. Crowd-investing: origins, development, classification and definition

Crowd-funding refers to a form of financing, where projects or ventures are funded by raising small monetary contributions from a large group of people ("the crowd"), typically via internet, rather than a limited number of sophisticated investors (Belleflamme et al., 2014). The concept of crowd-funding emerges from *crowd-sourcing*, which is the approach where profit-oriented businesses address "the crowd" through an open call via internet, in order to obtain support, feedback and possible solutions that can be implemented in production processes (Kleemann, Voß, & Rieder, 2008). Crowd-sourcing can be further divided into the four subtypes: *crowd-wisdom*, *crowd-creation*, *crowd-voting* and *crowd-funding* (Kortleben & Vollmar, 2012). The term itself is an acronym derived from *crowd* and *outsourcing* (Hagedorn & Pinkwart, 2013). The voluntary involvement of "the crowd" is usually free of charge or compensated by a significantly smaller amount than the actual value generated for the company (Schwienbacher & Larralde, 2012).

Although the term *crowd-sourcing* was first introduced by Jeff Howe in the June 2006 issue of the US technology magazine *Wired* (Belleflamme et al., 2010; Howe, 2006) its underlying idea can be traced back to the 18th century (Brabham, 2013) with historical examples such as the *Longitude Prize*, where the British Government offered £20,000 for anyone who could provide a credible calculation for the longitude of a ship, or the *Oxford English Dictionary*, where 800 volunteers catalogued words for the first publication (Dawson & Bynghall, 2012). An early, and what is argued to be the first, example of crowd-funding is the construction of the Statue of Liberty's base, where money was raised from 120,000 investors in exchange for the publication of their names, after financial resources for the building had become scarce (Leimeister, 2012).

Additionally, crowd-funding resembles the principle of microfinance (Mollick, 2014), which is a source of financing for entrepreneurs and small businesses that do not fulfil the prerequisites to obtain a bank loan or other financial services (Bradford, 2012). Reasons why these entrepreneurs are denied financial resources are lack of securities, high repayment risks, or too small sums of required capital (Bruton, Khavul, Siegel, & Wright, 2015). Furthermore, microfinance-based funding can take the form of loans, donations or investments with potential money providers being both individuals and institutions (Hemer et al., 2011).

Despite the early emergence of offline crowd-funding, various authors argue that the development of Web 2.0 was a decisive factor for the dissemination of information regarding the concept of crowd-sourcing, and consequently online crowd-funding (Brabham, 2008; Kleemann et al., 2008; Olson & Rosacker, 2013). Web 2.0 is regarded to be a version of the World Wide Web, where the network is seen as platform which allows the interactivity of users through technologies such as social networks, web applications or blogs (Rosen, 2011). The concept of 2.0 web-based crowd-funding initially emerged in the music industry (Belleflamme et al., 2010). Even though online crowd-funding projects like the one from the rock band Marillion, who financed their US tour by raising $60,000 from their fans via internet, date back to the mid-1990s, crowd-funding websites first appeared in the early 2000s. While some authors view online crowd-funding to have started with the US internet platform *ArtistShare*, which launched its first project in 2003 (Freedman & Nutting, 2015; Laemmermann, 2012), others regard the German-based platform *SellaBand*, founded in 2006 as pioneer (Kappel, 2009; Macht & Weatherston, 2014). The basic idea behind both concepts is to enable musicians to finance their projects without the need of record labels. In exchange, money providers can obtain rewards such as backstage passes or gain access to the creative process of a project (ArtistShare, 2014; SellaBand, 2013). This form of crowd-funding, is therefore often referred to as *reward-based crowd-funding* (Bradford, 2012; Collins & Pierrakis, 2012). Haas, Blohm, and Leimeister (2014) categorise reward-based crowd-funding, where non-monetary incentives are given to financial backers, as hedonistic. Although both crowd-funding websites, *ArtistShare* and *SellaBand*, follow the same approach of enabling musicians to finance their projects through “the crowd” instead of record labels, *ArtistShare* initially characterised its concept as *fan funding* while *SellaBand* was the first platform to apply the term crowd-funding (ArtistShare, 2014; Freedman & Nutting, 2015; SellaBand, 2013). However, the term crowd-funding itself was first introduced by Michael Sullivan in 2006 (Gass, 2011; Lawton & Marom, 2010). Furthermore, Lambert and Schwienbacher (2010, p. 6), who offered the first academic definition, defined crowd-funding as:

> an open call, essentially through the Internet, for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes

Crowd-investing (equity-based crowd-funding) is a form of crowd-funding based on the same fundamental principles as the above-mentioned early form of reward-based crowd-funding but with certain distinctions (Kortleben & Vollmar, 2012). The main similarities between crowd-investing and (reward-based) crowd-funding are that both are methods of project financing through “the crowd” via internet. Nonetheless, both models differ with respect to the underlying financing method (Hagedorn & Pinkwart, 2013). Unlike reward-based crowd-funding where money providers, usually, obtain non-monetary rewards, such as the mentioning of the name on a CD cover, tickets for the funded event, or material incentives, like the pre-purchase of products in exchange for contributions (Hemer et al., 2011), supporters of crowd-investing projects have the possiblility to receive monetary contributions in the form of interests or dividends (Hagedorn & Pinkwart, 2013; Kortleben & Vollmar, 2012). Hence, crowd-investing is based on a for-profit approach, were financiers expect returns rather than donations (altrusim/patronage-model) or non-monetary compensations (hedonism).

In the crowd-investing model, money providers are regarded as investors and the financed projects are linked to start-ups or already established companies, rather than to individuals (Hemer et al., 2011). Moreover, there are different involvement possibilities for investors who make monetary contributions such as company shares, silent participations, profit participating rights or participating loans (Belleflamme et al., 2014; Hagedorn & Pinkwart, 2013). Consequently, equity crowd-funding can be regarded as a form of external financing with a liability feature and respectively as equity capital (Kortleben & Vollmar, 2012). Additionally, capital inflow through equity-based crowd-funding can serve as a hybrid financial instrument such as mezzanine capital (Klöhn & Hornuf, 2012).

Even though there is yet no uniform and established definition of crowd-investing, the need for an extended definition of crowd-funding becomes evident taken the above mentioned into account. Mollick (2014) extended the definition of Belleflamme et al. (2010) to fit an entrepreneurial context by providing the following enhancement:

> Crowd-funding refers to the efforts by entrepreneurial individuals and groups–cultural, social, and for-profit–to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet, without standard financial intermediaries

Although this definition includes “the crowd” and addresses entrepreneurs, it still does not refer to crowd-investing or equity crowd-funding as such, implying the need for a separate definition. An example of a definition that approaches this issue is provided by Hagedorn and Pinkwart (2013):

> Crowd-investing is a financing method for young ventures and other commercial projects that supports the acquisition of equity by coordinating the submission of different forms of shares to an undefined group of possible investors through social virtual communities

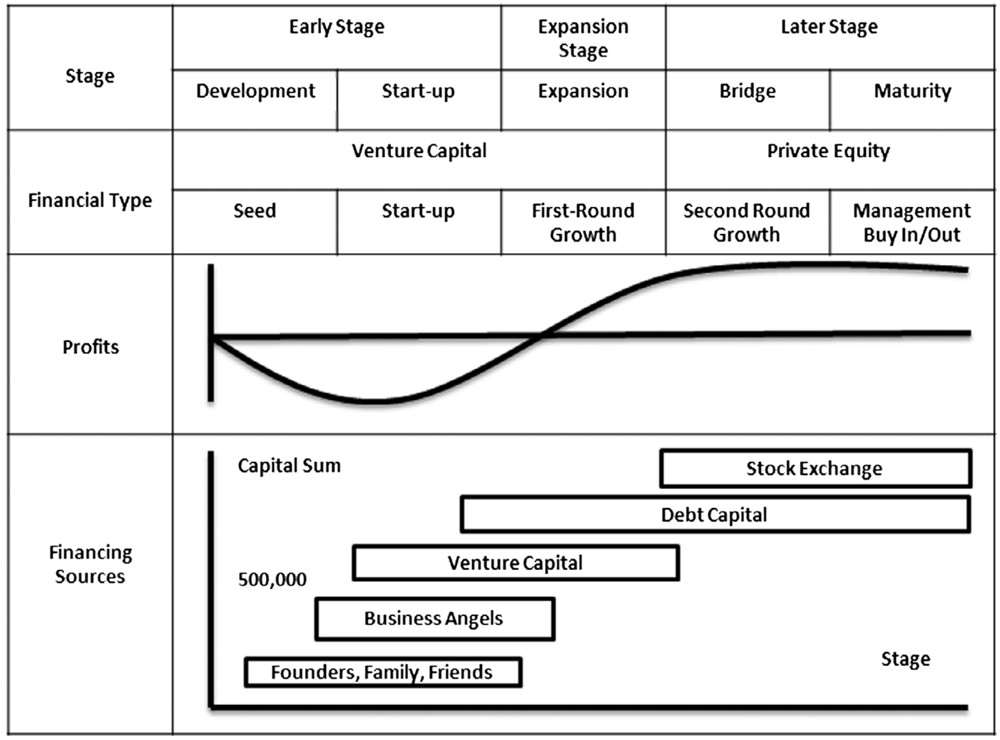
Moreover, although both forms of crowd-funding are available to entrepreneurs, Belleflamme et al. (2014) found that entrepreneurs prefer reward-based crowd-funding if small amounts of capital are required and equity-based crowd-funding for larger sums. Additionally, academic literature is increasingly supporting the view that crowd-investing can provide a valuable supplement or even alternative method, to for example bank loans or venture capital, for entrepreneurs to acquire the necessary financial resources, especially in early stages of business start-ups (Agrawal, Catalini, & Goldfarb, 2013; Hagedorn & Pinkwart, 2013; Mollick, 2014). Considering the difficulties that entrepreneurs face when trying to raise capital in initial stages (Cosh, Cumming, & Hughes, 2009) and the number of start-ups that already fail in the attempt (Casamatta & Haritchabalet, 2013) crowd-investing could have an impact on enterpreneurial culture in filling the funding gap.

3. Financing difficulties for entrepreneurs in early stages

Successful entrepreneurial enterprises pass through different growth stages throughout their life cycles (Mac an Bhaird, 2010; Stokes, Wilson, & Mador, 2010). However, a number of varying venture growth models have been developed, characterising three (Steinmetz, 1969; Vozikis, 1984), four (Dodge & Robbins, 1992) or even five different stages (Greiner, 1972; Scott & Bruce, 1987) in the business life cycle. Although the venture life cycle model is not always applicable due to its linear structure, rigid assumption of a constant growth through all stages, and lack of adjustment, to for example different industries, the model is useful for providing a better understanding and illustration of the entrepreneurial process (Poutziouris, 2003). Furthermore, the different life cycle stages are characterised by different entrepreneurial activities and changing financial requirements and sources (Leach & Melicher, 2011). Within the context of this article the taxonomy and limitations of the model will not be further specified, but rather a five-stage cycle applied (Figure 1) with focus put on the financial aspects of the different stages.

In the development stage, the initial stage of the venture life cycle, entrepreneurs require a multitude of different resources besides capital including manpower, furnishings, tax accounting and legal advice (Gibbons, Hisrich, & DaSilva, 2014). At this stage entrepreneurs use seed capital as primary form of financing, to ascertain the lucrativeness and feasibility of the business concept (Leach & Melicher, 2011). During the seed phase, also referred to as initial-stage financing, the product or service has not yet been developed and the young company is therefore unable to generate profits and both net income and cash flows are negative (Caselli, 2010; Smith, Smith, Smith, & Bliss, 2011). Moreover, entrepreneurs primarily make use of their own financial resources (Sherman, 2012) and

Figure 1. Financing throughout the business cycle.



often employ methods such as bootstrapping during this process step (Gibbons et al., 2014). Moreover, family and friends function as a further source of financing in the course of the seed stage by providing money in terms of either loan or equity capital (Molle & Djarova, 2009; Theeuwes, 2013). Throughout literature, the umbrella term used for financing through Founders, Family and Friends is FFF. Although Business Angels may invest at this stage, the required investments are often too small for investors to become interested (Tomczak & Brem, 2013). Typically, this primary phase concludes with the preparation of a concrete business plan and the selection of a suitable legal form for the company (Vinturella & Erickson, 2013).

The start-up stage, the subsequent stage, commences with the legal foundation of the company and ends with the market entry (Fischer, 2004; Kuratko, 2014). This phase is characterised by initial production and sales numbers as well as first returns (Hahn, 2014). Nevertheless, the launching costs are very high, revenues usually low and if any profits are generated they are only marginal (Reichle, 2010). The form of financing required to achieve the initial production is referred to as, start-up financing (Leach & Melicher, 2011). Although at this stage, FFF financing is still relevant, entrepreneurs begin to search for sources of venture capital such as venture capitalists and business angels for external equity financing. However, business angels can also be organised networks or groups, such as the German business angel network—BAND (2015) or the European network—EBAN (2014), that serve as platforms for raising capital, sharing know-how and supporting co-operations. Angel investment especially comes into consideration when FFF capital is already exhausted but capital requirements are still too low for venture capitalists' investments, and are often the first source of external financing (McKaskill, 2009; Tomczak & Brem, 2013). The money pooled from the individual investors is usually distributed to fund different startups as a measure of risk reduction. It may occur, that business angels and venture capitalists invest in the seed-phase of businesses, especially businesses with high-potential, this is however rather rare due to the small amounts of capital required by entrepreneurs at this stage (Cornwall, Vang, & Hartman, 2013).

As the company continues to grow and pass through further stages, the types and sources of financing increase and vary (Benjamin & Margulis, 2005). During the expansion stage entrepreneurs expand their businesses through growth financing in the form of debt, equity and mezzanine capital but also government assistance programmes might be applied (Volkmann, Tokarski, & Grünhagen, 2010). During the subsequent bridge phase, the venture has generated a sales and revenues history and both private and public capital become available to the company (Seidman, 2005). Once this life cycle stage has been reached, the business can also obtain financing through stock exchange (Leach & Melicher, 2011). At maturity stage, the company experiences a further increase in cash flows and revenues and capital is obtained from similar resources as in the previous stage (Damodaran, 2010).

Within the framework of this article, solely seed and start-up financing, which both refer to the early phase of young enterprises (Whalley, 2011) will be further analysed, especially with regard to crowd-investing. During these both initial stages, the primary source of financing is the business angel market place followed by venture capital firms (Mason & Harrison, 2000). The investments obtained by angels range between 25,000 euros and 500,000 euros and venture capitalists above 500,000 euros (Belleflamme et al., 2013).

4. Crowd-investing platforms

The crowd-funding process was originally carried out through direct interaction between financial providers and project owners, via social media tools (Zvilichovsky, Inbar, & Barzilay, 2014), such as “Twitter, Facebook, LinkedIn and different other specialised blogs” (Heminway & Hoffman, 2012, p. 881). Different factors such as the development of Web 2.0, the increasing popularity of crowd-sourcing and the impeding conditions for entrepreneurs seeking funds in the aftermath of the financial crisis, have given rise to the development of *crowd-funding platforms* (Giudici, Nava, Rossi Lamastra, & Verecondo, 2012). Crowd-funding platforms function as facilitators between crowd-funders and project initiators (De Buysere, Gajda, Kleverlaan, & Marom, 2012; Sannajust, Roux, & Chaibi, 2014; Schwienbacher & Larralde, 2012), whereas in the case of crowd-investing or equity-based crowd-funding the projects are mainly undertaken by entrepreneurs and enterprises who seek equity funding from “the crowd” (Belleflamme et al., 2014). These service providers gather monetary contributions from equity investors via internet, and transfer these to the appropriate project owners, thus “creating a dynamic funding network” (Zvilichovsky et al., 2014, p. 1). In this context, crowd-investors and entrepreneurs represent the relevant parties in the two-sided, or rather multi-sided market with crowd-funding platforms as intermediaries (Belleflamme et al., 2014; Zvilichovsky et al., 2014).

In accordance with Belleflamme and Lambert (2014), crowd-investing platforms function similar to traditional financial intermediaries in reducing information asymmetries, transaction costs and risk. Hagedorn and Pinkwart (2013) argue that crowd-investing platforms in their function as intermediaries closely resemble venture capital firms, which also perform tasks such as risk and size transformation. Risk reduction on platforms, for instance, is achieved by downsizing and transferring the default risk to relevant investors. Furthermore, crowd-investing platforms, similar to venture capital firms, screen, select and coordinate potential projects and proof their suitability. On the contrary, Kortleben and Vollmar (2012) emphasise that although both venture capital firms and crowd-investing platforms search for companies in a similar manner, all other process steps differ considerably. Venture capital firms, for example, undertake an elaborate due diligance procedure (Reißig-Thust, 2003) whereas, in the case of crowd-investing, investors have to evaluate the respective business plans since platforms only undertake an initial selection. Additionally, unlike venture capitalists crowd-investors are not actively involved in the decision-making process and the personnel of platforms might not be as experienced as that of venture capital firms in assisting entrepreneurs (Kortleben & Vollmar, 2012).

Furthermore, contrary to other intermediaries, platforms do not directly fulfil a brokerage function, since they neither undertake own investment decisions nor fund management activities (Hagedorn & Pinkwart, 2013). Although crowd-investing platforms connect investors and entrepreneurs, coordinating supply and demand of assets, the collected money is directly distributed to entrepreneurs (Klöhn & Hornuf, 2012). This increases the transparency of capital flows and allows investors to make direct investments, compared to other financial intermediaries such as banks and venture capital firms. A further advantage of crowd-investing compared to traditional intermediaries is the provision of social capital which has a positive effect on the financing success of the entrepreneur (Blohm et al., 2015; Zvilichovsky et al., 2014). Consequently, crowd-investing platforms "are not only intermediaries of monetary transactions, but also loci of social connections" (Colombo, Franzoni, & Rossi-Lamastra, 2015).

5. Crowd-investing in Germany

An important factor that providers of crowd-funding platforms, but also entrepreneurs and investors, must take into consideration, is the statutory requirements for crowd-investing. Contrary to other subtypes of crowd-funding, crowd-investing is subject to legal regulations (Belleflamme et al., 2014). The primary reason for this is that equity-based crowd-funding allows investors to obtain returns or profit shares, thus involving securities (Bradford, 2012). In the wake of financial crises, especially the financial crisis of 2008, reporting scandals and corporate governance issues security market regulations have been significantly intensified (Ball, 2009; Shleifer, 2002). Accordingly, in many countries legislations have been adapted to regulate crowd-investing primarily in order to migitate information asymmetries between investors and entrepreneurs and thus increase investor protection (Kappel, 2009; Mollick, 2014; Wardrop et al., 2015). Although in some countries, such as Japan, crowd-investing has been banned (Kirby & Worner, 2014) other areas, for instance the US, UK and continental Europe, have had a more positive view of equity-based crowd-funding (European Commission, 2014; Hölzner et al., 2014; Kitchens & Torrence, 2012). However, while some authors argue that approaches to regulation facilitate the access to capital for entreprenurs (Klöhn & Hornuf, 2012; Stemler, 2013) others argue that increased regulations might harm entrepreneurs, especially of small firms (Heminway, 2013; Hornuf & Schwienbacher, 2015). Legislation on crowd-investing often impedes the funding of entrepreneurial projects by restricting investments to sophisticated investors, limiting the number of financiers per project, or imposing restrictions on entrepreneurs by regulating the permissible size of companies interested in applying equity-based crowd-funding (Griffin, 2013; Kirby & Worner, 2014).

Although Germany followed a laissez-faire approach regarding crowd-investing regulation, regulatory changes were undertaken in the German Small Investor Protection Act which came into force in July 2015 (Fricke, 2015; Hornuf & Schwienbacher, 2015). The US CROWDFUND Act, or JOBS Act Title III, which will come into force in October 2015, served as model to the legislative adaption (Almerico, 2014; Hölzner et al., 2014). However, US regulations on crowd-investing are stricter since they, for example, only allow investments to accredited investors (SEC, 2012). With Title III of the act however, investments will be extended to non-accredited investors and intermediary functions restricted to registered broker-dealers and crowd-investing platforms (Lion, 2015).

The legislative changes in Germany provide that crowd-investing platforms ensure to inform investors of potential risks during the investment process (Fricke, 2015). These amendments restrict private investors to investments of up to 10,000 euros, depending on their income, but allow professional investors and limited companies to invest higher sums (Müller-Schmale, 2014). Additionally, capital seeking companies can raise up to 2.5 million euros without the need of platforms registering a prospectus. Although this is an improvement since the legislative proposal planned to restrict the sum to 1 million euros, other European countries like Austria or Italy have limits of 5 million euros (German Crowd-funding Network, 2015). Further changes include the implementation of the right of withdrawal for investors as well as the electronic processing of investment information sheets to facilitate process handling.

Before the German Parliament passed the act on crowd-investing, platforms bypassed the security law through profit participating loans, which were not regulated in the German Security Prospectus Act (Hornuf & Schwienbacher, 2015). Through this financial instrument, which allows

cogent • business & management

investors to benefit from returns, but only if profits are made by entrepreneurs, crowd-investing platforms were able to manage projects with unlimited sums (Wardrop et al., 2015). However, with the act the regulatory gap was removed and an exemption for crowd-investing were established.

Even though some exemptions have been made for German crowd-investing platforms, too complex regulations might increase operating expenses and reduce the market accessibility of equity-based crowd-funding (Wardrop et al., 2015). The new crowd-investing legislation has already led to uncertainty in the sector and is likely to evoke stagnation rather than further growth (Blohm et al., 2015; Für-Gründer.de, 2015). Therefore, a number of authors suggest that German legislators should follow other regulatory models, such as that in the UK, which currently has the most developed crowd-investing market, instead of orienting on the US JOBS Act (Hölzner et al., 2014; Wardrop et al., 2015). The tax incentives offered to crowd-investors in the UK, for instance, could lead to a substantial increase in the financing volume of crowd-investing in Germany (Hölzner et al., 2014).

One of the reasons why German start-ups demand further regulatory developments in favour of crowd-investing is the still underdeveloped financing situation for entrepreneurs in Germany (German Startups Association, 2014). In particular, access to seed capital remains problematic compared to other countries such as the US or the UK and entrepreneurs at this financing stage are largely dependent on domestic funding. The advancement and growth of crowd-investing, which is also determined by the according regulations, could therefore have a considerable impact on German entrepreneurial culture.

Although until 2013, there had been a decline in the total number of business start-ups, with liquidations exceeding foundations, numbers have been rising again since 2014 (BMWi, 2013; Metzger, 2015). Nonetheless, the number of entrepreneurs facing financing difficulties has elevated, due to increased capital expenditures regardless of lower fractional amounts and a higher number of entrepreneurs without capital use (Metzger, 2015). Data on the funding sources of start-ups indicate that entrepreneurs primarily use their own savings followed by funding through family and friends and governmental funds (Ripsa & Tröge, 2014). Although entrepreneurs classify venture capital as important funding source, only 21.4% of the surveyed start-ups have used it as financing method and most entrepreneurs report difficulties in accessibility (Hagedorn & Pinkwart, 2013; Ripsa & Tröge, 2014). However, venture capitalists are more difficult to access than business angels. In another study by Hagen, Metzger, and Ullrich (2012), 71% of the start-ups reported to have severe difficulties in raising capital in early stages. Nevertheless, crowd-investing still plays a tangential role in German start-up financing compared to other funding sources and is currently even less relevant than bank loans (Ripsa & Tröge, 2014). One of the reasons for the limited relevance of crowd-investing in Germany could be the low awareness level of crowd-funding in general. A survey conducted by Harms (2015) revealed that only 51.8% of the respondents had heard of crowd-funding and merely 24.5% actually knew what crowd-funding is? Furthermore, solely 7.3% of the respondents had helped finance a crowd-funding project.

A Delphi study with 117 experts across different sectors predicted that the German crowd-investing sector, similar to global developments, will experience a compound annual growth rate of 30% until 2020 being an important source for start-ups funding (Blohm et al., 2015). Statistics for the first half of 2015 show a dynamic growth for crowd-lending, with a volume twice as high as for the entire year 2014 (74.2 million euros compared to 35.6 million), whereas only 9.6 million euros were raised through crowd-investing (Für-Gründer.de, 2015). These results are consistent with the general trend in European countries, where crowd-lending by far exceeds crowd-investing (Wardrop et al., 2015).

Even though Germany has the third largest crowd-funding market in Europe, the market volume is virtually insignificant compared to the UK, where 3.56 billion euros have been raised in total, and 2.38 billion euros in 2014 alone (Wardrop et al., 2015). Additionally, the UK has a market share of 74.3% compared to 25.7% which accounts for the rest of Europe. Altogether, the annual average growth rate of 146% for Europe as a whole (115% without UK and 159% for UK alone) exemplifies the potential of crowd-funding and crowd-investing as alternative financing tool.

The future growth (or even decline) of German crowd-investing however will be very much determined by reaction of investors to the 2015 changes in the German legal framework. Klöhn, Hornuf, and Schilling's (2015) critique of the impact on investors of the 2015 Small Investor Protection Act is scathing; "… it does not do justice to the economic potential of crowdfunding and crowdinvesting nor can it be expected that it will materially improve investor protection" (p. 11). While the law does for the first time provide a cohesive set of regulations for the crowd-investing sector, it also introduces significant disclosure requirements and limits on investors who wish to subscribe for more than €1,000, in that they need to declare €100,000 or more liquid assets to be able to do so. Klöhn et al. (2015) point out that it is entirely possible that investors may decline to invest more than €1,000 on German crowd-investing platforms now "… for fear of losing confidentiality of their financial data." (p. 17) and that while investments over €1,000 constitute only 15% of all investors, those 15% contribute 76% of the total market volume. Therefore, if these investors were put off by the substantial additional disclosure requirements then "… the market would suffer a significant adverse impact." (p. 17). A clear concern is that, faced with such restrictive requirements in Germany, highly liquid investors may switch from German platforms to platforms in less legally restrictive and relaxed regulatory environments such as the Netherlands and the UK which don't have such disclosure requirements.

6. German crowd-funding platforms

The German Crowd-funding market in September 2015 consisted of 91 platforms (Figure 2). Reward-based crowd-funding represents the largest group with 45%, whereas 15 of the 41 reward-based platforms have a regional focus and one is even operated by a German bank. Although lending-based platforms only account for 10% of the total market, this sector is characterised by strong growth, especially in terms of credit volume. The equity-based crowd-funding market, which will be the proportion further analysed in this article, constitutes the second largest sector with 34% or 31 in absolute numbers (summarised in Table 1 overleaf).

As illustrated in Figure 3, the number of crowd-investing platform foundations per year has been rather volatile since the emergence of the first platform in 2011. However, it should be mentioned that the graph only includes the 31 platforms that are still currently active and not the ones that were shut down.

Although all crowd-investing platforms founded in 2011 were "cross-sectoral", meaning that they administer projects of companies from different sectors, since 2012 platforms have emerged that exclusively manage projects from one sector. The cross-sectoral platforms still represent the largest group, with 61%; followed by the environmental platforms which constitute 19% of all crowd-investing platforms and real estate platforms, which make up 13%. Substantial differences in the performance of the individual platforms are evident. Although some of the differences, for example in

Figure 2. Crowd-funding platforms by subtype.

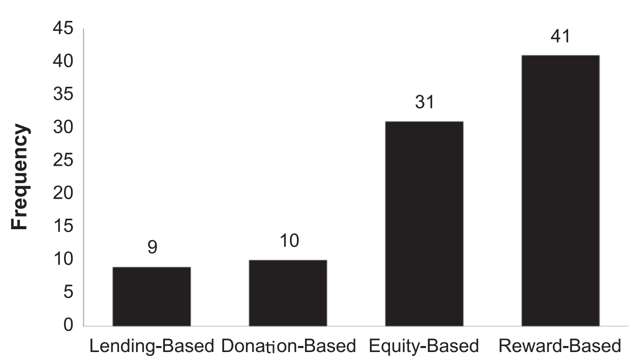


Table 1. Summary of crowd-investing platforms characteristics

Name	Sectors	Founding year	Financed projects (No.)	Failed projects (No.)	Ongoing projects (No.)	Success rate (%)	Total sum raised by PF (€)	Lowest project sum (€)	Highest project sum (€)	Average project sum (€)	Min investment (€)	Max investment (€)	Registered investors (No.)
Aescuvest	Medical	2014	0	n.d.	2	n.d.	0	n.r.	n.r	n.r.	250	unlimited	n.d.
Bankless24	Mixed	2012	8	n.d.	0	n.d.	644000	50900	100000	77659	100	unlimited	n.d.
Bergfürst	Mixed	2012	2	n.d.	2	n.d.	4092000	1100000	2992000	2046000	10	unlimited	11000
Bettervest	Environmen-tal Projects	2012	27	0	2	100%	1661700	4150	385150	24021	50	unlimited	1500
Bürgerzins	Environmen-tal Projects	2015	0	n.d.	4	n.d.	n.r.	n.r.	n.r.	n.r.	100	unlimited	n.d.
Cinedime	Film Financ-ing	2014	1	1	1	50%	60000	60000	60000	60000	100	unlimited	n.d.
Companisto	Mixed	2011	0	0	3	100%	21270295	41290	7500000	233220	5	unlimited	40247
CROWD NINE	Mixed	2013	2	n.d.	0	n.d.	67000	16900	50100	33500	100	10000	n.d.
CrowdEner.gy	Environmen-tal Projects	n.d.	4	1	n.d.	0.8	165000	18000	65000	35497	500	unlimited	n.d.
Crowdrange	Mixed	2012	0	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	50	100000	n.d.
DEUTSCHE-MIKROIN-VEST	Mixed	2012	29	n.d.	6	n.d.	8700000	100000	3500000	188328	250	unlimited	n.d.
EASY CROWD-FUNDING	Mixed	2015	0	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	100	100000	n.d.
Econeers	Environmen-tal Projects	2013	5	3	2	63%	3188500	180000	1000000	538383	250	unlimited	1805
Exporo	Real Estate	2014	2	n.d.	2	n.d.	3467200	1351000	2116200	1733600	500	unlimited	n.d.
FinMatch	Mixed	2014	0	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
FunderNation	Mixed	2014	2	3	6	0.4	3550900	350900	3200000	1059660	100	unlimited	296
Fundsters	Mixed	2012	10	n.d.	0	n.d.	781508	41158	154744	70743	1	unlimited	4297
Green Crowd-ing	n.d.	2015	0	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
GreenX-money	Environmen-tal Projects	2014	9	n.d.	1	n.d.	267500	6000	60000	22532	500	n.d.	n.d.
Innovest-ment	Mixed	2011	29	n.d.	0	n.d.	2441064	25250	175000	78090	1000	unlimited	n.d.
Kapital-freunde	Real Estate	2012	2	n.d.	n.d.	n.d.	187750	67500	120250	90094	250	unlimited	n.d.
LightFin	Mixed	2013	1	n.d.	2	n.d.	530000	530000	530000	530000	250 (100.000)*	unlimited	n.d.

(Continued)

Table 1. (*Continued*)

Name	Sectors	Founding year	Financed projects (No.)	Failed projects (No.)	Ongoing projects (No.)	Success rate (%)	Total sum raised by PF (€)	Lowest project sum (€)	Highest project sum (€)	Average project sum (€)	Min investment (€)	Max investment (€)	Registered investors (No.)
Mezzany	Real Estate	2015	1	n.d.	0	n.d.	2455000	2455000	2455000	2455000	1000	unlimited	n.d.
MyBusiness-Backer	Mixed	2012	1	1	n.d.	0.5	50300	50300	50300	50300	100	100000	n.d.
Seedmatch	Mixed	2011	81	3	2	96%	24374500	56000	3000000	204525	250	unlimited	40907
Startkaptial-Online	Mixed	2012	2	3	n.d.	33%	59000	450	37050	11800	25	100000	n.d.
United Equity	Mixed	2014	3	2	n.d.	66%	n.d.	n.d.	n.d.	n.d.	100	1000000	n.d.
Universso	Mixed	2013	0	n.d.	3	n.d.	n.d.	n.d.	n.d.	n.d.	100	n.d.	n.d.
Unternehm-erich	Mixed	2014	2	n.d.	0	n.d.	151600	3600	148000	75800	250	n.d.	n.d.
Welcome Investment	IT/Software	2014	2	n.d.	n.d.	n.d.	32600	10000	22600	16300	n.d.	1000000	n.d.
ZINSLAND	Real Estate	2015	1	0	1	1	750000	750000	750000	750000	500	unlimited	n.d.

Notes: n.d. denotes no data available from website.
n.r. denotes data not recorded by website.

Figure 3. Platform foundations per year.

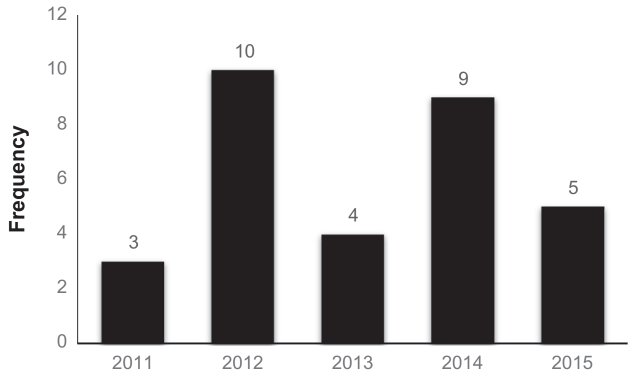
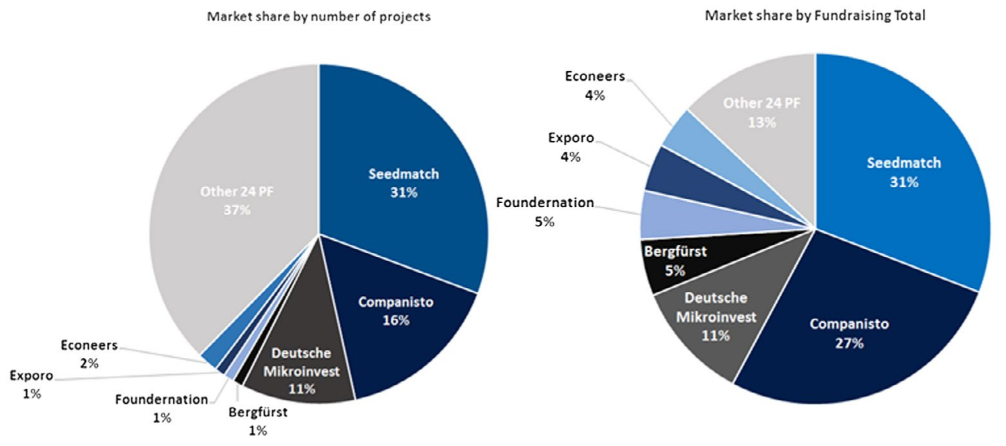


Figure 4. Market share of platforms.



project numbers or total sums raised by the individual platforms could be analysed, other variables such as the success rate could not be identified because most platforms do not display their failed projects. On platforms where enough information was disclosed, success rates ranged from 33% to 100%. Furthermore, the analysis evinced substantial differences in the sums raised by a platform. Figure 4 illustrates the sum raised by the platforms in which seven largest platforms account for 83% of the total sum raised by all crowd-investing platforms, whereas Seedmatch, the largest platform, has a share of 31% (24,374,500 euros) and Companisto, the second largest, one of 27% (21,270,295 euros).

7. German crowd-investing projects

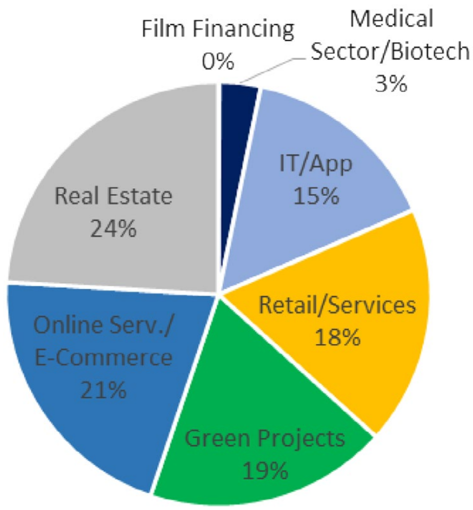
Since 2011 there have been 265 successful projects which amount to a total of 78,944,892 euros (Table 2).

A further analysis of the individual projects shows that the number of projects is more or less evenly distributed among different sectors with exception of the film and medical sector were only very few projects have been funded (Figure 5). It is notable that although only a small number of projects have been realised in real estate, projects in this sector account for the largest share. This is because, these projects usually require large investments. For instance, the project with the highest investment (7,500,000 euros) was a real estate project funded on Companisto. What was also

Table 2. Project investment raised

No. of projects	Raised	Max.	Min.	Median
265	78,944,892 €	3,600 €	7,500,000 €	100,000 €

Figure 5. Projects by sector.



notable, was that a large number of projects were online or rather internet based. This is represented by the sector IT/App, which included data storage systems and a range of different apps, but also by the category Online Services/E-Commerce which depicts companies that exclusively provide their projects and services via internet. Due to the large quantity of these internet-based projects, they were divided into two categories to present a more detailed overview. Green Projects, also represent a large proportion of crowd-investing projects. The investments in this sector were as low as 4,750 euros but also large sums of up to 3,500,000 euros were raised through green projects.

8. German crowd-investing platforms terms and conditions

From an entrepreneurial perspective, it is also important to consider the terms and conditions for using a platform for company financing purposes. Although there were some slight differences regarding the project conditions, costs involved and access barriers, the structure of the individual platforms was comparable. Apart from exceptions like Seedmatch which primarily selects funding projects starting at 100,000 euros, almost no platform specifies the minimum of maximum project investment (Table 3). For investors, the minimum investments vary between 1 euro and 1,000 euros, whereas *LightFin* offers institutional investor contributions starting from 100,000 euros. Although maximum investments are predominantly not limited, some platforms restrict the investments to 1,000,000 euros, 100,000 euros or even 10,000 euros depending on the investor participation form. As illustrated in Table 4, the cost structures for entrepreneurs also vary slightly depending on the platform.

Table 3. Project sum and restrictions

Restrictions related to project sums (€)	Range (€)	Mode (€)	Comments
Min. investment per investor	1–1000	100	One platform offered institutional investors to invest in projects starting at a min. sum of €100,000
Max investment per investor	10,000-Unlimited	Unlimited	
Min. project sum allowed	Unspecified	Unspecified	Only Seedmatch requested min. project sums of €100,000
Max. project sum allowed	Unlimited	Unlimited	

Table 4. Costs for platform usage

Costs for entrepreneur/ company	Range	Mode	Comments
Cost of platform use as a percentage of project sum raised	2–12	8–10	One platform requested a fixed sum of £500 independent of the total sum raised
Cost paid by investor as a percentage	4–12	See comment	Range of models used by platforms; some determined by entrepre-neur, some by platforms according the risk profile of company/sector, some by under-lying profit sharing scheme of platform
Payback period (Years)	1–12	2–5	Different models according to platform; some have low fixed interest rates on investment with exit payment, some have semi-annual interest payments, some have annual interest payments plus profit participation (which makes for highly variable payback period)

9. Summary and conclusions

In accordance with a number of authors (*inter alia* Macht & Weatherston, 2014; Mollick, 2014; Tomczak & Brem, 2013) the findings of this study support the view that crowd-investing provides a suitable financing method for entrepreneurs in early stages. Nevertheless, unlike Hagedorn and Pinkwart (2013) who categorise crowd-investing for projects starting from 100,000 euros and Kortleben and Vollmar (2012) for projects below 200,000 euros, this article would extend this classification, since results showed that projects can range from sums far below 100,000 euros to sums over several millions. However, results were consistent with Dorfleitner et al. (2014) in regard to project sums currently still being in the low-six figure range, although there is a clear tendency upwards. Furthermore, the additional administrative and accounting challenges for entrepreneurs applying crowd-investing, highlighted by some authors (Kitchens & Torrence, 2012; Valanciene & Jegeleviciute, 2013) do not apply for German crowd-investing, since the platforms undertake these tasks.

The overall German crowd-investing market currently still represents a niche, constituting only 3% (Hölzner et al., 2014) of the venture capital market. Since average project sums are as low as 100,000 euros, crowd-investing should (currently still) be regarded as supplement to other equity funding methods rather than alternative. However some platforms, for instance Companisto, have close cooperation with venture capital firms and corporate finance specialists to assure venture capital compatibility to entrepreneurs (Companisto, 2015).

The German crowd-investing platforms represent 34% of the overall crowd-funding market. Although most platforms manage projects from different sectors, platforms which specialise in one particular sector are increasingly emerging. Furthermore, the market is dominated by only a few platforms regarding both total sums raised by platforms and number of projects. Moreover, crowd-investing projects are realised across different sectors, with internet-based projects constituting the largest proportion (36%) followed by projects in real estate (24%) and green projects (19%). Although the individual project sums range from 3,600 euros to 7,500,000 euros the median is 100,000 euros.

In the light of the increased difficulties entrepreneurs face in the search for external capital, especially since the financial crisis, crowd-funding could gain importance within the context of entrepreneurial finance (Hagedorn & Pinkwart, 2013). In particular, crowd-investing, which closely resembles other forms of external equity financing, could facilitate the access to capital, via an open call through the internet, and thus help founders overcome funding gaps in early stages (Macht & Weatherston, 2014). Crowd-investing platforms as intermediaries thereby play a crucial role, since funding processes take place on platforms, where the according providers coordinate and manage entrepreneurial projects (Tomczak & Brem, 2013). Therefore, this study focused on analysing the German crowd-investing market, consisting of 31 platforms, to enable a categorisation of the market potential of crowd-investing in Germany as well as an evaluation of the applicability for entrepreneurs. Thus, an attempt was made to identify different characteristics of platforms that could serve as orientation for entrepreneurs throughout the platform selection process.

This article gave a critical overview of the relevant literature, by predominantly discussing the relevance of crowd-investing from an entrepreneurial perspective as well as the function of crowd-investing platforms. The results from both the literature review and the research showed that compared to leading countries, such as the UK, the German crowd-funding market is very small, consisting of only 91 crowd-funding platforms, of which 31 are crowd-investing platforms. Within Continental Europe however, Germany represents the second largest market only slightly behind France (Wardrop et al., 2015). So far, the 31 German crowd-investing platforms have successfully completed 265 projects which accumulate to nearly 79 million euros. Nevertheless, a large fraction of the market is divided among a small number of successful platforms. Findings indicate that the seven largest platforms take account for 83% of the total sum raised by all platforms and 67% of all realised projects. Seedmatch, the largest platform, has a market share of 31% for both total sum and number of projects and Companisto, the second largest platform, accounts for 27% of the total sum and 16% of all the projects. Although crowd-investing projects are realised across different sectors, most completed projects are internet based (36%), followed by real estate projects (24%) and green projects (19%). Moreover, even though the median project sum is 100,000 euros a number of projects amounted to several million euros. It was also noticeable that although most platforms manage and coordinate projects of different sectors, in recent years a number of platforms have emerged which specialise in one specific sector. Especially some of the platforms in the environmental and real estate sector have gained market share.

In accordance with Bechter and Frey (2011) and Sigar (2012) the analysis of the German crowd-investing platforms showed, that access barriers for entrepreneurs are much lower compared to other equity sources, such as business angels and venture capital firms. However, although most crowd-investing platforms do not specify any demands for entrepreneurs, some platforms such as Seedmatch and Innovestment require start-ups to have a legal form, which could represent a first financing obstacle for young entrepreneurs, since the foundation of, for instance GmbH, requires 25,000 euro share capital (Katins, 2013). However, most platforms do not have this requirement. Similar to findings from Valanciene and Jegeleviciute (2013), this research also showed, that contrary to other equity sources, entrepreneurs who make use of crowd-investing mostly do not lose control over managerial decisions unless they wish so, since few platforms have models which give participation rights to investors. Additionally, in some of the platforms, especially the most successful ones, entrepreneurs actively use the platform as communication tool to inform their investors and keep them up to date. Furthermore, similar to the findings of Dorfleitner et al. (2014), it was found that the underlying concepts of the different crowd-investing platforms provide a high degree of flexibility to investors regarding the duration of capital commitment, rate of returns and participation models. Nevertheless, some of the findings contradicted those found throughout the literature. The disadvantages stated by some authors, related to increased administrative and accounting challenges (Kitchens & Torrence, 2012; Valanciene & Jegeleviciute, 2013) did not apply to German crowd-investing platforms, since platform providers undertake these tasks.

German crowd-investing platforms can serve as useful funding source for entrepreneurs, however, since median project sums are still very low, at 100,000 euros, crowd-investing should currently still be regarded as supplementary to other external equity sources, rather than alternative. Nevertheless, crowd-investing can help entrepreneurs overcome funding gaps. Additionally, given that some platforms closely cooperate with venture capital firms and corporate finance specialists to assure venture capital compatibility, follow-up financing, for entrepreneurs applying crowd-investing, could be facilitated. Moreover, the analysis of the individual projects also demonstrated that higher amounts, of several millions, could be obtained for individual projects, and further research showed that average project sums are increasing (Für-Gründer.de, 2015), implying future potential in the crowd-funding market. Although there is growth potential in the crowd-investing market regarding the number of projects and total sums, the analysis of the different platforms suggest a saturation of the market since a small number of platforms make up most of the market. Additionally, these few successful platforms follow slightly different concepts, for example through different customer or rather investor segmentation, thus increasing market entry barriers for new platforms. However, some of the platforms which focus on niche sectors have managed to successfully enter the market.

10. Further avenues

Although this article aimed to provide a comprehensive overview of the German crowd-investing sector, a number of questions accrued throughout the research process that could serve as a basis for further research. An additional analysis of crowd-lending platforms could provide an insight into the funding possibilities offered to entrepreneurs and applied supplementary to this research. Moreover, a comparison of German crowd-investing platforms with crowd-investing markets of other countries could contribute to a better categorisation of the development status of crowd-investing in general and assessment of the future market potential. In this context, a comparison of German crowd-investing platforms with UK platforms as benchmark, could serve as orientation to enhance the performance of German platforms. Furthermore, since a number of international crowd-funding platforms are planning to enter the German crowd-funding market, it would be interesting to analyse the effect their market entry would have on the crowd-investing volume and the market structure, given that entry barriers seem high. German legislators could enhance the future market growth of crowd-investing by adapting the UK model, where for example tax incentives are provided to investors (Hölzner et al., 2014). Even though the German crowd-investing market is still relatively small it should be supported by policy-makers since it represents a promising funding method that could influence entrepreneurial culture, after all, "economic success of nations worldwide is the result of encouraging and rewarding the entrepreneurial instinct." (Tracy, 2005).

Acknowledgement
The authors would like to thank Satish Sharma, Teaching Fellow at Northumbria University, for his kind help in reviewing this paper prior to publication.

Funding
The authors received no direct funding for this research.

Author details
David Grundy[1]
E-mail: david.grundy@northumbria.ac.uk
Carolina Ohmer[1]
E-mail: carolina.ohmer@web.de
[1] Newcastle Business School, Northumbria University, City Campus East 1, Newcastle upon Tyne, NE1 8ST, UK.

Citation information
Cite this article as: German crowd-investing platforms: Literature review and survey, David Grundy & Carolina Ohmer, *Cogent Business & Management* (2016), 3: 1138849.

References

Agrawal, A. K., Catalini, C., & Goldfarb, A. (2013). *Some simple economics of crowd-funding* (No. w19133). Cambridge, National Bureau of Economic Research.

Almerico, K. (2014). SEC delays equity crowd-funding piece of JOBS Act for another year. *Entrepreneur*. Retrieved July 8, 2015, from http://www.entrepreneur.com

ArtistShare. (2014). *ArtistShare*. Retrieved July 1, 2015, from http://www.artistshare.com/v4/about

Ball, R. (2009). Market and political/regulatory perspectives on the recent accounting scandals. *Journal of Accounting Research, 47*, 277–323. http://dx.doi.org/10.1111/joar.2009.47.issue-2

BAND. (2015). *Business angels Netzwerk Deutschland*. Retrieved July 8, 2015, from http://www.business-angels.de

Bechter, C. J., & Frey, M. (2011). From wisdom to wisdom of the crowd and crowd-funding. *Journal of Communication and Computer, 8*, 951–957.

Belleflamme, P., Lambert, T., & Schwienbacher, A. (2010). *Crowd-funding: An industrial organization perspective*. Retrieved from http://economix.fr/pdf/workshops/2010_dbm/Belleflamme_al.pdf

Belleflamme, P., Lambert, T., & Schwienbacher, A. (2013). Individual crowdfunding practices. *Venture Capital, 15*, 313–333.
Belleflamme, P., Lambert, T., & Schwienbacher, A. (2014). Crowdfunding: Tapping the right crowd. *Journal of Business Venturing, 29*, 585–609. http://dx.doi.org/10.1016/j.jbusvent.2013.07.003
Benjamin, G. A., & Margulis, J. B. (2005). *Angel capital: How to raise early-stage private equity financing*. Hoboken, NJ: Wiley.
Blohm, I., Sieber, E., Haas, P., Schulz, M., Leimeister, J. M., Wenzlaff, K., & Gebert, M. (2015). *Crowd-funding 2020: Complement or substitute for the financial industry.* Norderstedt: Berlin.
BMWi. (2013). *Germany—A nation of entrepreneurs: Facts and figures company registrations and entrepreneurial spirit in Germany*. Federal Ministry for Economic Affairs and Energy (BMWi). Retrieved from http://www.bmwi.de/English/Redaktion/Pdf/factbook-gruenderland-deutschland,property=pdf,bereich=bmwi2012,sprache=en,rwb=true.pdf
Brabham, D. C. (2008). Crowdsourcing as a model for problem solving: An introduction and cases. *Convergence, The International Journal of Research into New Media Technologies, 14*, 75–90. http://dx.doi.org/10.1177/1354856507084420
Brabham, D. C. (2013). *Crowdsourcing*. Cambridge: Massachusetts Institute of Technology.
Bradford, C. S. (2012). Crowd-funding and the federal securities laws. *Columbia Business Law Review, 1*, 1–150.
Bruton, G., Khavul, S., Siegel, D., & Wright, M. (2015). New financial alternatives in seeding entrepreneurship: Microfinance, crowdfunding, and peer-to-peer innovations. *Entrepreneurship Theory and Practice, 39*, 9–26. http://dx.doi.org/10.1111/etap.2015.39.issue-1
Carland, H., Carland, J. W., & Hoy, F. (2002). Who is an entrepreneur? Is a question worth asking. In N. F. Krueger (Ed.), *Entrepreneurship: Critical perspectives on business and management* (pp. 178–185). New York, NY: Routledge.
Carree, M. A., & Thurik, A. R. (2010). The impact of entrepreneurship on economic growth. In Z. J. Acs & D. B. Audretsch (Eds.), *Handbook of entrepreneurship research* (pp. 557-594). New York, NY: Springer.
Casamatta, C., & Haritchabalet, C. (2013). Dealing with venture capitalists: Shopping around or exclusive negotiation. *Review of Finance, 10*, 1–31.
Caselli, S. (2010). *Private equity and venture capital in Europe: Markets, techniques, and deals*. Burlington, MA: Elsevier.
Cohn, S. R. (2012). New crowd-funding registration exemption: Good idea. *Bad Execution, Florida Law Review, 64*, 1433–1446.
Collins, L., & Pierrakis, Y. (2012). The venture crowd: Crowd-funding equity investments into business. London: Nesta. Retrieved from http://eprints.kingston.ac.uk/29089/1/the_venture_crowd.pdf
Colombo, M. G., Franzoni, C., & Rossi-Lamastra, C. (2015). Internal social capital and the attraction of early contributions in crowdfunding. *Entrepreneurship Theory and Practice, 39*, 75–100. http://dx.doi.org/10.1111/etap.2015.39.issue-1
Companisto. (2015). Retrieved July 30, 2015, from https://www.companisto.com/de/view-all-startups
Cornwall, J. R., Vang, D. O., & Hartman, J. M. (2013). Entrepreneurial financial management: An applied approach (3rd ed.), New York, NY: M.E. Sharpe.
Cosh, A., Cumming, D., & Hughes, A. (2009). Outside entrepreneurial capital. *The Economic Journal, 119*(540), 1494–1533. http://dx.doi.org/10.1111/ecoj.2009.119.issue-540
Damodaran, A. (2010). Applied corporate finance (3rd ed.), Hoboken, NJ: Wiley.
Dawson, R., & Bynghall, S. (2012). *Getting results from crowds*. San Francisco, CA: Advanced Human Technologies.
De Buysere, K., Gajda, O., Kleverlaan, R., & Marom, D. (2012). *A framework for European crowd-funding*. European Crowd-funding Network. Retrieved from http://www.europecrowd-funding.org/wp-content/blogs.dir/12/files/2013/06/FRAMEWORK_EU_CROWD-FUNDING.pdf
Dodge, R., & Robbins, J. (1992). An empirical investigation of the organizational life cycle model for small business development and survival. *Journal of Small Business Management, 30*, 27–37.
Dorfleitner, G., Kapitz, J., & Wimmer, M. (2014). Crowd-investing als Finanzierungsalternative für kleine und mittlere Unternehmen. *Die Betriebswirtschaft (DBW), 74*, 283–303.
EBAN. (2014). *The European trade association for business angels*. Retrieved July 8, 2015, from http://www.eban.org/about
European Commission. (2014). *Unleashing the potential of crowd-funding in the European union*. Brussels: Author.
European Commission. (2015). Retrieved from http://ec.europa.eu/finance/general-policy/crowd-funding/index_de.htm#maincontentSec1
Feller, J., Gleasure, R., & Treacy, S. (2013). From the wisdom to the wealth of crowds: A metatriangulation of crowd-funding research. *TOTO Research Project*, V2.
Fischer, B. (2004). *Finanzierung und Beratung junger Start-up-Unternehmen*. Wiesbaden: Deutscher Universitäts-Verlag/GWF Fachverlage Gmbh. [Financing and advising young start-up companies-a business analysis of founder overview] http://dx.doi.org/10.1007/978-3-322-81686-3
Freedman, D. M., & Nutting, M. R. (2015). *Equity crowdfunding for investors*. Hoboken, NJ: Wiley. http://dx.doi.org/10.1002/9781118864876
Fricke, U. W. (2015). Gründerszene. Retrieved from Was sich für Crowd-Investoren ändert: http://www.gruenderszene.de/allgemein/crowd-investing-kleinanlegerschutzgesetz-auswirkungen-investoren
Für-Gründer.de. (2015). *Crowdfinanzierung in Deutschland*. Friedberg: Author.
Gass, D. (2011). *Crowd funding: How to raise money with the online crowd*. Las Vegas, NV: Jump Profit.
German Crowd-funding Network. (2015). *Bundestag verbessert das Kleinanlegerschutzgesetz zugunsten der Crowd-funding-Plattformen, Projekte und der Investoren—Evaluation und langfristig weitere Verbesserungen notwendig*. Retrieved from Von German Crowd-funding Network: http://www.germancrowd-funding.net
German Startups Association. (2014). *Stellungnahme des Bundesverbands Deutsche Startups zum Entwurf zum Kleinanlegerschutzgesetz*. Retrieved from https://deutschestartups.org/wp-content/uploads/2014/09/Startup-Verband_zur_Gesetzentwurf-Kleinanlegerschutzgesetz_final.pdf
Gibbons, G., Hisrich, R. D., & DaSilva, C. M. (2014). *Entrepreneurial finance: A global perspective*. Thousand Oaks, CA: Sage.
Giudici, G., Nava, R., Rossi Lamastra, C., & Verecondo, C. (2012), *Crowd-funding: The new frontier for financing entrepreneurship?* Retrieved from http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=2157429
Greiner, L. (1972). Evolution and revolution as organisations grow. *Harvard Business Review, 4*, 37–46.
Griffin, Z. J. (2013). Crowd-funding: fleecing the American masses. *Journal of Law, Technology and the Internet, 4*, 375–410.
Haas, P., Blohm, I., & Leimeister, J. M. (2014). An empirical taxonomy of crowd-funding intermediaries. In *Thirty Fifth International Conference of Information Systems*. Auckland.
Hagedorn, A., & Pinkwart, A. (2013). *Crowd-investing as a financing instrument for startups in Germany, Lepzig:*

HHL Leipzig Graduate School of Management. Retrieved from http://www.hhl.de/en/research/publications/detail-page/?tx_publikationen_pi1[uid]=4293

Hagen, T., Metzger, G., & Ullrich, K. (2012). *KfW-Gründungsmonitor*. [KfW Start-up Monitor] Frankfurt: KFW Banking Group.

Hahn, C. (2014). *Finanzierung und Besteuerung von Start-up-Unternehmen*. [Financing and taxation of start-up companies] Wiesbaden: Springer.

Harms, M. (2015). *Crowd-funding Umfrage Bekanntheit and Beteiligung*. [Crowdfunding survey of awareness and participation] Berlin: OmniQuest Market Research Institute, crowd-funding.de.

Hemer, J. (2011). *A snapshot on crowd-funding*. Karlsruhe: Fraunhofer ISI. Retrieved from Von: http://isi.fraunhofer.de/isimedia/docs/p/arbpap_unternehmen_region/ap_r2_2011.pdf

Hemer, J., Schneider, U., Dornbusch, F., & Frey, S. (2011). *Crowd-funding und andere Formen informeller Mikrofinanzierung in der Projekt- und Innovationsfinanzierung*. [Crowdfunding and other forms of informal microfinance in project and innovation funding] Karlsruhe: Fraunhofer Verlag.

Heminway, J. M. (2013). How congress killed investment crowd-funding: A tale of political pressure, hasty decisions, and inexpert judgments that begs for a happy ending. *Kentucky Law Journal, 102*, 865–889.

Heminway, J. M., & Hoffman, S. R. (2012). Proceed at your peril: Crowd-funding and the securities act of 1933. *Tennessee Law Review, 78*, 879–972.

Hölzner, H., Kortleben, H., & Biering, B. (2014). *Zukunftsperspektiven im Crowd-investing: Eine Analyse der Entwicklung in Deutschland zwischen 2011 und 2014*. [Future prospects in the Crowd Investing: An analysis of the development in Germany 2011 to 2014] Oldenburg: EFNW - Research Institute of the University of Oldenburg.

Hornuf, L. (2012, April)). Crowd-investing in Deutschland - Markt, Rechtslage und Regulierungsperspektiven. *Zeitschrift für Bankrecht und Bankwirtschaft, 4*, 237–320.

Hornuf, L., & Schwienbacher, A. (2015). *Should securities regulation promote crowd-investing?* Retrieved from http://epub.ub.uni-muenchen.de

Howe, J. (2006, June). The rise of crowdsourcing. *Wired, 14*, 1–4.

Kappel, T. (2009). Ex ante crowd-funding and the recording industry: A model for the U.S. *Entertainment Law Review, 29*, 375–385.

Kassinger, T. W., Kaufmann, Z. D., & Traeger, L. (2013). Democratizing entrepreneurship: An overview of the past, present, and future of crowd-funding. *Securities Regulation and Law Report, 45*, 208–217.

Katins, C. (2013). *Was kostet die Gründung einer Gmbh*. [What establishes limited liability] Gründerszene.

Kirby, E., & Worner, S. (2014). *Crowd-funding: An infant industry growing fast*. Madrid: IOSCO Research Department.

Kitchens, R., & Torrence, P. D. (2012). The JOBS Act-crowd-funding and beyond. *Economic Development Journal, 11*, 42–47.

Kleemann, F., Voß, G. G., & Rieder, K. (2008). Un(der)paid innovators: The commercial utilization of consumer work through crowdsourcing. *Science, Technology and Innovation Studies, 4*(1), 5–26.

Klöhn, L., & Hornuf, L. (2012). Crowd-investing in Deutschland. *Zeitschrift für Bankrecht und Bankwirtschaft,* [Crowdinvesting in Germany] *24*, 237–266.

Klöhn, L., Hornuf, L., & Schilling, T. (2015). *The regulation of crowdfunding in the small investor protection act content: Consequences, critique, suggestions*. Diritto Della Banca e del Mercato Finanziario. Retrieved from SSRN: http://ssrn.com/abstract=2595773

Kortleben, H., & Vollmar, B. H. (2012). *Crowd-investing – eine Alternative in der Gründungsfinanzierung?* [Crowd Investing - an alternative to the seed financing?] Göttingen: PFH - Private University Göttingen.

Kuratko, D. (2014). *Entrepreneurship: Theory, process, and practice*. Mason, OH: CENGAGE Learning.

Laemmermann, K. (2012). *Crowd-funding crowdsourcing* (Der Public Crowdfundig Report 2012). North Charleston, SC: CreateSpace Independent Publishing Platform.

Lambert, T., & Schwienbacher, A. (2010). *An empirical analysis of crowd-funding*. Retrieved July 8, 2015, from http://www.crowdsourcing.org/document/an-empirical-analysis-of-crowd-funding-/2458

Lawton, K., & Marom, D. (2010). *The crowd-funding revolution: Social networking meets venture financing*. New York, NY: McGraw Hill.

Leach, J. & Melicher, R. (2011). *Entrepreneurial finance*. Cengage Learning.

Leimeister, J. M. (2012). Crowdsourcing. *Controlling and Management, 56*, 388–392.

Lion, J. (2015). *JOBS Act Title III and crowd-funding: What we know so far*. Retrieved from http://blog.onevest.com/blog/2015/3/19/jobs-act-title-iii-and-crowd-funding-what-we-know-so-far

Mac an Bhaird, C. (2010). *Resourcing small and medium sized enterprises: A financial growth life cycle approach*. Berlin, Heidelberg: Springer Science and Business Media.

Macht, S. A., & Weatherston, J. (2014). The benefits of online crowdfunding for fund-seeking business ventures. *Strategic Change, 23*(1-2), 1–14. http://dx.doi.org/10.1002/jsc.v23.1/2

Martin, T. (2012). *The Jobs Act of 2012: Balancing fundamental securities law principals with the demands of the crowd*. Retrieved from http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=2040953

Mason, C. M., & Harrison, R. T. (2000). The size of the informal venture capital market in the UK. *Small Business Economics, 15*, 137–148. http://dx.doi.org/10.1023/A:1008143713722

McKaskill, T. (2009). *An introduction to angel investing: A guide to investing in early stage entrepreneurial ventures*. Melbourne: Breakthrough Publications.

Metzger, G. (2015). *KfW-Gründungsmonitor 2015*. [KfW Start-up Monitor 2015] Frankfurt: KFW Banking Group.

Mohanty, S. K. (2005). *Fundamentals of entrepreneurship*. New Delhi: PHI Learning.

Molle, W., & Djarova, J. (2009). *Enhancing the effectiveness of innovation*. Cheltenham: Edward Elgar. http://dx.doi.org/10.4337/9781848447417

Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of Business Venturing, 29*(1), 1–16. http://dx.doi.org/10.1016/j.jbusvent.2013.06.005

Moritz, A., & Block, J. H. (2014). Crowdfunding und crowdinvesting: State of the art der wirtschaftswissenschaftlichen literatur. [Crowdfunding and crowdsourcing Investing: State-of-the-art scientific literature] *ZfKE – Zeitschrift für KMU und Entrepreneurship, 62*, 57–89. http://dx.doi.org/10.3790/zfke.62.1.57

Müller-Schmale, V. (2014). *Crowd-funding—Supervisory requirements and investor responsibility*. Federal Financial Supervisory Authority. Retrieved from https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Fachartikel/2014/fa_bj_1406_crowd-funding.html

Olson, D. L., & Rosacker, K. (2013). Crowdsourcing and open source software participation. *Service Business, 7*, 499–511. http://dx.doi.org/10.1007/s11628-012-0176-4

Pope, N. D. (2011). Crowd-funding microstartups: It's Time for the securities and exchange commission to approve a small offering exemption. *University of Pennsylvania Journal of Business Law, 13*, 101–129.

Poutziouris, P. (2003). The strategic orientation of owner-managers of small ventures. *International Journal of Entrepreneurial Behavior & Research, 9*, 185–214. http://dx.doi.org/10.1108/13552550310488929

Reichle, H. (2010). *Finanzierungsentscheidung bei Existenzgründung unter Berücksichtigung der Besteuerung*. [Financing decision at start-up taking into account taxation: an economic analysis] Heidelberg: Springer. http://dx.doi.org/10.1007/978-3-8349-8956-7

Reißig-Thust, S. (2003). *Venture-Capital-Gesellschaften und Gründungsunternehmen: Empirische Untersuchung zur erfolgreichen Gestaltung der Beziehung*. [Venture capital firms and start-up enterprises: Empirical study on the successful design of the relationship] Wiesbaden: Gabler.

Ripsa, S., & Tröge, S. (2014). *DSM - Deutscher startup monitor*. KPMG in Germany. Retrieved from http://deutscherstartupmonitor.de/fileadmin/dsm/dsm-14/DSM_2014.pdf

Rosen, P. A. (2011). Crowdsourcing lessons for organizations. *Journal of Decision Systems, 20*, 309–324. http://dx.doi.org/10.3166/jds.20.309-324

Sannajust, A., Roux, F., & Chaibi, A. (2014). Crowd-funding in France: A new revolution? *Journal of Applied Business Research, 30*, 1919–1928.

Schwienbacher, A., & Larralde, B. (2012). Crowd-funding of small entrepreneurial ventures. In D. Cumming (Ed.), *The Oxford handbook of entrepreneurial finance* (pp. 369–391). Oxford: Oxford University Press.

Scott, M., & Bruce, R. (1987). Five stages of growth in small business. *Long Range Planning, 20*, 45–52. http://dx.doi.org/10.1016/0024-6301(87)90071-9

SEC. (2012). *Jumpstart Our Business Startups Act (JOBS Act)*. Von United States Securities and Exchange Commission. Retrieved from http://www.gpo.gov/fdsys/pkg/BILLS-112hr3606enr/pdf/BILLS-112hr3606enr.pdf

Seedmatch. (2015). Retrieved from https://www.seedmatch.de/startups

Seidman, K. F. (2005). *Economic development finance*. Thousand Oaks, CA: Sage.

SellaBand. (2013). Retrieved from https://www.sellaband.com/de/pages/about_us

Sherman, A. J. (2012). *Raising capital: Get the money you need to grow your business* (3rd ed.). New York, NY: American Management Association.

Shleifer, A. (2002). Investor protection and equity markets. *Journal of Financial Economics, 66*, 3–27. http://dx.doi.org/10.1016/S0304-405X(02)00149-6

Sigar, K. (2012, March). Fret no more: Inapplicability of crowd-funding concerns in the internet age and the JOBS Act's safeguards. *Administrative Law Review, 64*, 473–505.

Smith, J., Smith, R. L., Smith, R., & Bliss, R. (2011). *Entrepreneurial finance: Strategy, valuation, and deal structure*. Stanford, CA: Stanford University Press.

Steinmetz, L. (1969). Critical stages of small business growth. *Business Horizons, 12*, 29–36. http://dx.doi.org/10.1016/0007-6813(69)90107-4

Stemler, A. R. (2013). The Jobs Act and crowdfunding: Harnessing the power—and money—of the masses. *Business Horizons, 56*, 271–275. http://dx.doi.org/10.1016/j.bushor.2013.01.007

Stokes, D., Wilson, N., & Mador, M. (2010). *Entrepreneurship*. Singapore: Cengage Learning.

Theeuwes, M. F. (2013). *Make it big: Crossing the entrepreneur's gap*. North Charleston, SC: CreateSpace Independent Publishing Platform.

Tomczak, A., & Brem, A. (2013). A conceptualized investment model of crowdfunding. *Venture Capital, 15*, 335–359. http://dx.doi.org/10.1080/13691066.2013.847614

Tracy, B. (2005). The role of the entrepreneur. *Entrepreneur*. Retrieved from http://www.entrepreneur.com/article/78478

Valanciene, L., & Jegeleviciute, S. (2013). Valuation of crowd-funding: Benefits and drawbacks. *Economics and Management, 18*, 39–48.

Vinturella, J. B., & Erickson, S. M. (2013). *Raising entrepreneurial capital* (2nd ed.). Oxford: Elsevier.

Volkmann, C. K., Tokarski, K. O., & Grünhagen, M. (2010). *Entrepreneurship in a European perspective*. Wiesbaden: Gabler. http://dx.doi.org/10.1007/978-3-8349-8752-5

Vozikis, G. (1984). A strategic disadvantage profile of the stages of development of small business: An empirical investigation. *Review of Business and Economic Research, 20*, 96–110.

Wardrop, R., Zhang, B., Rau, R., & Gray, M. (2015). *Moving mainstream: The European alternative finance benchmarking report*. London: University of Cambridge, Ernst and Young.

Wennekers, S., & Thurik, R. (1999). Linking entrepreneurship and economic growth. *Small Business Economics, 13*, 27–56. http://dx.doi.org/10.1023/A:1008063200484

Whalley, I. (2011). *Creating risk capital: A royalty fund solution to the ownership and financing of enterprise*. Hampshire: Harriman House.

Zvilichovsky, D., Inbar, Y., & Barzilay, O. (2014). *Playing both sides of the market: Success and reciprocity on crowd-funding platforms*. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2304101