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The Future of Entrepreneurship: Crowd-based Incubation

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Abstract: Business incubators are an important mechanism to accelerate the success of new ventures. The emergence of ubiquitous IT allows to provide several support services for start-ups via online platforms. One particularly promising approach is the concept of crowd-based incubation. To shed light on this novel topic we conducted a single case study at the crowd-based incubator JumpStartFund. The results provide several interesting insights and a preliminary conceptual model of crowd-based incubation that contributes on research of business incubators in general and provides valuable hints for practical applications that might extend the service offering of existing business incubators.

Keywords: business incubator; crowdsourcing; case study; entrepreneurship

1 Introduction

Many internet start-ups such as Uber, Snapchat, Spotify, and Facebook are gaining major successes and quickly disrupt whole industries. Despite these prominent examples, at the same time many digital ventures fail. One reason for this is that especially early stage start-ups need a supportive environment for the development of new ventures. Therefore, incubators emerged as institutions to facilitate entrepreneurial ventures by offering supporting services for early stage startups (Bergek, & Norrman, 2008). Previous work examined the role of organizations that create a supportive environment for facilitating economic development, innovativeness, and the emergence of novel technology-based ventures, called incubators. Such incubators offer early stage startups links to knowledge-based assets or technological capital to accelerate the development of new ventures. Therefore, they provide various support services such as access to physical resources (e.g., office space), office support services, start-up mentoring and coaching, access to

networks (e.g., employees, customers, or suppliers), or to financial resources (e.g., venture capital) (von Zedtwitz, 2003). However, due to limited capacities and locally bounded resources incubators frequently struggle in providing effective support. In this regard, IT provides novel ways to offer incubation services virtually.

While some of these services are location dependent such as office space or close personal coaching, others can be provided virtually via the internet.

Consequently, virtual business incubators emerged offering services (location-independent) via digital tools. This approach proved to be particularly suitable for business development services, networking, and financing. To offer such services, incubators need a broad access to heterogenous social resources, which is frequently challenging to achieve.

One possible way to reduce these limitations can be found in the literature on crowdsourcing. Research on crowdsourcing in the context of innovation extensively showed the potential of integrating the collective intelligence in the co-creation of novel technologies (e.g., Howe, 2008; Leimeister et al., 2009) and provides evidence for the value of integrating the social resources of a heterogeneous crowd into the offers of incubators. However, to date there is no understanding of which incubation services can be provided using crowdsourcing and how incubators can offer such services. The main goal of our study is therefore to provide a general understanding of such crowd-based incubation services and their practical application. Thus, we aim at answering the following research questions. First, how do crowd-based incubation services support entrepreneurs? And second, how can crowdsourcing be organized for incubation to support entrepreneurs? Therefore, we conducted an embedded single case study of the platform JumpStartFund, which supports for instance the entrepreneurial effort of the innovative transportation system Hyperloop. Using this example, we want to highlight the tremendous potential of crowdsourcing to facilitate early stage start-ups by offering support services via the internet.

Our research contributes to previous work on business incubators (e.g., Carayannis and von Zedtwitz, 2005; Grimaldi and Grandi, 2005; Pena, 2004) by highlighting new service provision mechanisms and their advantages. Second, our research contributes to literature on crowdsourcing especially in the context of innovation (e.g., Leimeister et al., 2009; Poetz and Schreier, 2012) by introducing a novel field of application, business incubation. Third, our preliminary model of crowd-based incubation might inform design oriented research (e.g., Hevner et al., 2004) for designing novel crowd-based incubation service systems in the future. Finally, our findings can inform business incubators with possible extensions for their existing service portfolio.

2 Related work

Business incubators and incubation services

Business incubators emerge as institutions that provide a protective environment for the development of new ventures and gain increasing popularity. Such incubators are often publicly funded and affiliated to universities and research institutes or take shares of the supported companies (Hackett and Dilts, 2004). Historically, business incubators were

developing through different stages of maturity and continuously extend their service value propositions (Bruneel et al., 2012).

Business incubators offer their services just for the early stages of entrepreneurial effort. Thus, their service provision typically has a limited period of approximately three months to three years (Rothaermel and Thursby, 2005). During this time, the start-ups should actively shape their organizational structure, processes, and routines and develop a final version of their value proposition to grow into established ventures that are ready to launch in the market and get equity financing.

To participate in a business incubator, entrepreneurs must apply for admission and are selected through a desirability and feasibility assessment of the incubator team. Consequently, business incubators are frequently highly specialized on distinctive industries (e.g., Fintech) or technologies (e.g., Blockchain). The service provision ranges from infrastructure such as co-working spaces, shared resources, business support, and access to networks. Being part of a business incubator accelerates the success rates of early stage start-ups (von Zedtwitz, 2003).

Infrastructure is the most basic service that is commonly provided by incubators. Such include clerical services, meeting rooms, conference rooms, co-working spaces, or car parking (Bergek and Norrman, 2008). Moreover, infrastructure services can also span more specialized resources, for instance makerspaces for 3D printing, laboratories, research equipment, or fabrics.

The second common service provided for start-ups is business support. In this vein, business incubators help entrepreneurs through coaching, training, developing their business models and learning (Clarysse and Bruneel, 2007). Coaches and mentors in the business incubator attempt to help the early stage start-up team to gain problem-solution fit by conducting one-to-one support initiatives such as workshops and offer entrepreneurs methods to continuously develop their idea into a novel venture. Moreover, business support is offered through marketing support, market research, basic business support etc.

Third, incubators function as a boundary spanner (e.g., Ferrary and Granovetter, 2009) to provide entrepreneurs with access to external actors that are relevant for start-up maturity. Incubators create a strong network around their efforts to connect entrepreneurs with potential customers (which is especially crucial in the B2B context), suppliers, technology partners, business angels, and institutional investors (Hansen et al., 2000). This is a valuable service for entrepreneurs in early stage start-ups, as these start-ups frequently struggle to get access to such networks.

Table 1 Business incubators services

<i>Incubation Service</i>	<i>Examples</i>
Infrastructure	<ul style="list-style-type: none"> ▪ Co-working space ▪ Shared resources
Business support	<ul style="list-style-type: none"> ▪ Coaching and advice for prototype and business

	model development
Access to networks	▪ Mentoring of entrepreneurs
	▪ Training to develop business skills
	▪ Access to professional service providers (e.g., consultants etc.)
	▪ Access to potential business partners and customers
	▪ Access to seed and venture capital

Source: Own illustration following Bruneel et al. (2012)

The limitations of traditional business incubators

The main value of business incubators relies on the logic of social capital, which allows entrepreneurs to capitalize on external social resources to create, run, and grow their new ventures (Bruneel et al., 2012). Social interaction is vital to success in entrepreneurship for developing and refining potential opportunities (e.g., Shepherd, 2015). However, traditional business incubators have several constraints when providing their services such as limited social resources, highly specialised industry foci, problems related to human biases in closely personal relations that emerge during on-site incubator programs, and the inflexibility of resources.

First, entrepreneurs need access to experienced mentors who are also capable of further evaluating and developing the initial ideas (Foss et al., 2008). The major constraint that business incubators face here is the fact that they have frequently only geographically constraints networks that are highly specialized on a certain industry (e.g., fintech). Therefore, mentors within their direct networks might not necessarily be experts in the required field. For instance, they might not have enough business knowledge, technological expertise, or simply be too distant to provide face to face advice. This problem is particularly important if the entrepreneurs attempt to converge industry boundaries with their ideas and the deep prior experience within one field needs to be balanced with heterogeneous knowledge and insights to enable valuable feedback and learning (Alvarez et al., 2013). Thus, business incubators frequently provide only limited heterogeneity of knowledge (Ferrary and Granovetter, 2009).

Second, mentors within the network of a certain business incubator form close social relations to the entrepreneurial teams that they support due to close and frequent interactions (Bruneel et al., 2012). While this is an overly positive aspect and advantage of on-site business incubators, it might also create human biases. For instance, if entrepreneurs explain their ideas to their related peers and ask for feedback on the value of the possible opportunity, they will probably face several traps. The entrepreneurs might encounter a self-selection bias by choosing mentors that are very likely to support their thoughts and beliefs. Moreover, direct associates will more likely tend to overestimate the viability of an opportunity and therefore lead to biased results of the feedback process (Burmeister and Schade, 2007). This fact can create a misleading sense of security that might result in the threat of wrong market moves (e.g., Lechner et al., 2006).

Finally, the flexibility of required resources represents a certain issue in the creation of a new venture (Alvarez et al., 2013). Such a flexibility of resources is particularly manifested in human resource practices and financing. In the early stages, entrepreneurs

do frequently not know which skills they finally require for setting up their start up. Therefore, hiring individuals becomes challenging as the requirements can expand or change in a short time exceeding the human capital of employees (Alvarez and Barney, 2007). Second, entrepreneurs must obtain financial resources to realize a business idea. However, the context is highly uncertain due to the lack of information. Therefore, it is difficult to explain the nature and value of the opportunity that is being exploited to traditional sources of capital such as banks and venture capital firms (Bhide, 1991). Thus, business incubators are frequently challenged in providing adequate funding mechanisms.

More recently, virtual incubators emerge that deliver their value proposition online (Bruneel et al., 2012). This approach is suitable to leverage the benefits of ubiquitous information technology for providing business services and access to networks, while shared infrastructure is obviously reserved to traditional offline incubators. However, offering additional virtual services is a common strategy of business incubators. Table 1 provides an overview of business incubators services.

The mechanism of crowdsourcing

One special instantiation of using a demand-side approach by interacting with a firm's environment (Priem, 2007) in the process of developing new products and services is crowdsourcing. Crowdsourcing has been developing as part of the greater open innovation movement and is thus increasingly used by firms to innovate or outsource tasks (e.g., Poetz and Schreier, 2012). It was originally considered as a new form of organizing work and denotes the act of taking a task once performed inside an organization and broadcasting it via an open call to individuals outside the organization (Howe, 2008). The underlying rationale suggests that a large diverse crowd of independent strangers performs better in certain types of challenges than a small number of experts. At the heart of the concept are new information systems that allow to leverage networks and therefore innovate with users outside one's association (Brabham, 2013).

The value of crowds compared to individuals underlies two basic principles: error reduction and knowledge aggregation (Larrick et al., 2011). Error reduction is achieved as although an individual (expert or non-expert) might be prone to biases and errors, the principle of statistical aggregation minimizes such errors by combining multiple perspectives (Armstrong, 2001). Second, knowledge aggregation describes the diversity of knowledge that can be aggregated by combining multiple voices and enables a user to capture a fuller understanding of a certain context (Soukhoroukova et al., 2012; Keuschnigg and Ganser, 2017).

Prominent applications of crowdsourcing include idea generation (e.g., Ebner et al., 2009; Leimeister et al., 2009), idea evaluation (Blohm et al., 2016; Magnusson et al., 2016), co-creation for new product development (e.g., Girotra et al., 2010; Poetz and Schreier, 2012;), crowd testing (Leicht et al., 2017), crowdfunding (Mollick, 2014), or crowdwork (e.g., Durward et al., 2016). Firms that apply crowdsourcing benefit from the heterogeneous and diverse crowd, which can provide the ability to discover creative solutions or solve problems. Interaction with the crowd enables firms to discover novel customer requirements and user input for ideas, thereby representing a "voice of the customer" (e.g., Dahan and Hauser, 2002). Therefore, crowdsourcing provides both need-based information (i.e., what is the problem?) as well as solution-based information that guides companies in finding out what a potential new product or service should do (Terwiesch and Ulrich, 2009; Van Hippel, 2005). On the other hand, the crowd can be

used to gain access to external resources, such as human capital, to recruit freelancers with a specific expertise (e.g., expertise in PHP or Java) to fulfill a certain job (e.g., programming a webpage), test new products (e.g., Zogaj et al., 2014) or to finance products, investment projects, or entire companies (Mollick, 2014). Table 2 summarizes types and examples of crowdsourcing applications from previous research.

Table 2 Crowdsourcing types and applications

<i>Type</i>	<i>Examples</i>	<i>Example References</i>
Crowd voting	<ul style="list-style-type: none"> ▪ Idea evaluation ▪ User rating 	<p>Blohm et al. (2016)</p> <p>Klein and Garcia (2015)</p>
Crowd creation	<ul style="list-style-type: none"> ▪ Open source ▪ Customer co-creation ▪ Idea contests 	<p>Leimeister et al. (2009)</p> <p>Poetz and Schreier (2012)</p> <p>Majchrzak & Malhorta (2013)</p> <p>Ebel et al. (2016)</p>
Crowdfunding	<ul style="list-style-type: none"> ▪ Reward-based ▪ Donation-based ▪ Equity-based ▪ P2P lending 	<p>Bretschneider and Leimeister (2017)</p> <p>Feldmann et al. (2014)</p> <p>Mollick (2014)</p>
Crowd testing	<ul style="list-style-type: none"> ▪ Software usability test ▪ Debugging 	<p>Leicht et al. (2017)</p> <p>Zogaj et al. (2014)</p>

Source: Own illustration

One field of application that has not been examined by crowdsourcing scholars so far is the context of entrepreneurship. The only exception is crowdfunding, which has been demonstrated to be a viable funding alternative for entrepreneurs who might not be able to acquire funding through traditional funding channels. Apart from that, the literature on crowdsourcing constructing entrepreneurial opportunities is still nascent. To combine both research streams, we therefore define crowd-based incubation as support services that are provided via an internet platform and based are on crowdsourcing to create a supportive environment for start-ups.

3 Research design

Methodology

To answer the outlined research questions, this paper adopts an exploratory and descriptive embedded in-depth single case study design (Yin, 2013). As the idea of crowd-based incubation is a very recent topic and little research exists on this topic we choose the case study approach that particularly allows to research into little explored topics with the purpose of theory building (e.g. Eisenhardt, 1989). Contrary to other

research strategies, the case study methodology is not intended to make predictions about statistical relationships and frequencies (Eisenhardt and Graebner, 2007; Yin, 2013). Instead, the conclusions drawn from case study results are “[...] generalizable to theoretical propositions and not to populations or universes [...]” (Yin, 2013: 13).

For the purpose of this research, we applied a methodology for analyzing internet-based qualitative data to explore the phenomenon of crowd-based incubation (Romano et al., 2003). The use of secondary data in case study research is a well-known approach in fields such as social sciences, economics, political science, and information systems research (e.g., Ghazawneh and Henfridsson, 2013). This procedure of conducting case study research differs from the traditional qualitative study where the data is first-handed gathered by the researcher. By relying on data from secondary sources, the researcher can include perspectives from multiple sources and related stakeholders, which allows to collect large volumes of data that would be not possible by relying on data collection techniques such as qualitative interviews (Romano et al., 2003).

Case selection

We selected the crowd-based incubator JumpStartFund (www.jumpstartfund.com) as case for our research. The company under study was chosen for several reasons. First, the platform of JumpStartFund uses a unique approach in providing crowd-based incubation services. Such cases are useful for generating novel insights as extreme or ideal types typically define theoretical concepts (Gerring, 2007). Second, the integrated multi-stage approach applied on this platform allows entrepreneurs to use crowd-based services through different steps from ideation to funding. Thus, the company’s unique approach offers insights or clues into designing a blueprint for crowd-based incubators.

Data collection and analysis

To collect and analyse qualitative data from secondary online sources we applied Romano et al.’s (2003) method. for making sense of the data material. This approach offers us a structured guidance to make sense of the rich data existing on the JumpStartFund platform. Therefore, a three-step process was conducted: elicitation, reduction, and visualization.

First, for an in-depth examination, multiple data sources were utilized from the platform itself and 52 start-up projects launched at JumpStartFund such as public available data, and media sources. The data was collected through extensive desk research and documentation to elicit relevant data to be included in our case database. During the second step of our data analysis procedure we used constructs and concepts from previous work on business incubator services (e.g., categories) and crowdsourcing applications (e.g., types, governance mechanisms) to reduce the massive data material to the intended focus. We, thus, coded the archival data to identify common topics. Finally, we developed new constructs by visualizing the findings in our conceptual models. Thereby, we could draw conclusions regarding crowd-based incubation services, their idiosyncrasies, and a conceptual model of crowd-based incubation as described in the following chapters.

4 Findings

Case description

JumpStartFund is a crowd-based virtual incubator that enables entrepreneurs to build communities around start-up projects and ideas. The California based incubator was founded in 2012 by Paul Coleman, Dirk Ahlborn, and Andrew Quintero and offers an online platform for entrepreneurs to enable them to build communities around their early stage ideas. The generated future revenue is then split among the crowd and the entrepreneur.

The incubation process at JumpStartFund starts with an initial idea submission and a fee of \$10. Such ideas are then reviewed by an expert team and evaluated as well as feedbacked through the crowd within one month. If the idea is not selected, entrepreneurs receive at least valuable feedback. Entrepreneurs can then decide if their business idea is provided to the community or privately develop it with an internal JumpStartFund expert team.

After admission is granted, the entrepreneurial idea emerges through an incubation process of ideation and conceptualization, project development and financing on the platform. This incubation process is offered by the JumpStartFund community and includes strict rules of exchange for IP rights and revenue shares. For instance, a fixed share of future revenue is provided to community members that answer questions, vote, provide feedback and ideas, or co-create complete tasks. JumpStartFund offers various incubation services that are provided by the crowd. In the following chapters, we analyse each service in detail.

The crowd for validating entrepreneurial opportunities

The community at JumpStarFund is used to validate entrepreneurial ideas during different stages of maturity. This decision support service starts as early as the entrepreneur submits the initial proposal for the idea and continues through “crowd storming”, an up-and-down voting feature for the projects as well as community rating of entrepreneur generated input. Thus, this service helps entrepreneurs to validate their assumptions about what is viable, to adapt them if necessary, or even abandon the project.

The crowd for guiding entrepreneurial decisions

Moreover, the crowd offers decision support to the entrepreneur in the form of guidance. Therefore, JumpStartFund applies several mechanisms to empower the online community to provide feedback on the idea, the project, or prototypes. Such include for example asking the crowd questions and collect all the answers for feedback. Additionally, the entrepreneur can start discussion to get mentoring and advice of how to proceed the project or which future directions might be desirable.

The crowd for co-creating entrepreneurial opportunities

A little more sophisticated are the co-creation mechanisms of JumpStartFund. This approach enables members of the community to join a project and become a kind of virtual member of the new venture or even join as co-founder. Furthermore, using the crowd for co-creation an entrepreneurial idea allows to outsource concrete tasks of the project to the community.

The crowd for signalling value to third-parties

Applying a crowd-based approach for incubation offers an additional service that is a relevant task for business incubators: signalling the value to third-parties. This means that the incubator must signal investors, potential customers, or business partners that the start-up at hand is truly valuable. For this purpose, building a community around the entrepreneur's idea shows that many actors support the start-up and signals the potential of a new idea. Moreover, online tools allow to share information on the project efforts via social media and thus leverage network effects to gain support beyond the JumpStartFund platform itself.

The crowd for financing early stage entrepreneurial projects

Finally, the crowd provides a financing service by enabling entrepreneurs to raise equity funding, collect donations for projects, use reward-based crowdfunding, or presell new products. Moreover, bills that arise during the setup of the new ventures can be shared with the crowd to finance each business activity individually. This approach provides several benefits. First, access to potential investors via the platform. Second, already committed members of the crowd that supported the project during the previous stages have a direct payment system infrastructure for financial transactions. Third, JumpStartFund allows also to connect offline investors to raise funds.

5 Discussion

Crowd-based incubation services and their advantages

Our results indicate, that the four services can be offered through leveraging the crowd: decision support, co-creation, signalling, and financing. Figure 1 provides an overview of the identified crowd-based services.

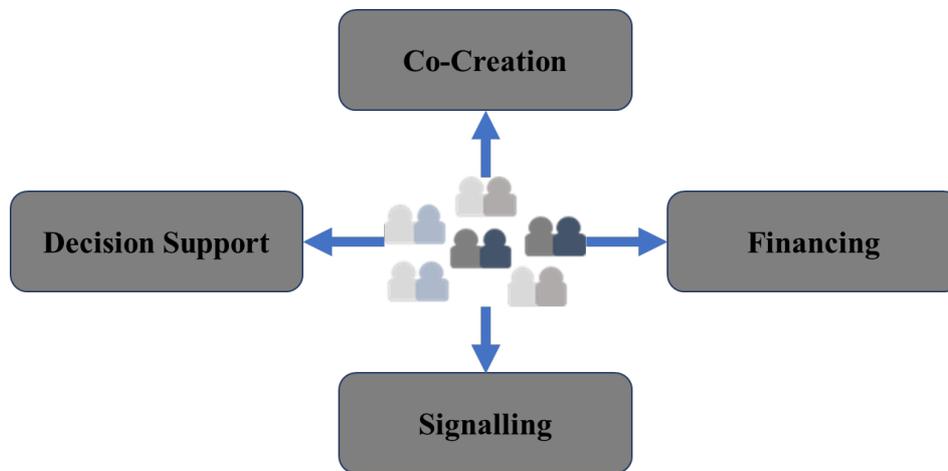


Figure 1 Crowd-based incubation service diamond

First, crowd-based incubation services can provide decision support to entrepreneurs. In the early stages of an entrepreneurial idea, uncertainty is extremely high. In this phase, collective intelligence can be leveraged to provide diverse view points for validating (or rejecting) the entrepreneur’s assumptions and to provide concrete advice on the next steps or directions for future development.

Second, co-creation leverages the creative potential of crowdsourcing. This crowd-based service enables the entrepreneurs to benefit from the heterogenous knowledge of various experts, the creative potential of diverse actors, and allows to distribute ‘ complex work among supporters. Contrary to just mentoring and providing advice, the crowd can become an active co-founder that supports the entrepreneur in creating a new venture and becomes even a part of it.

Third, signalling is a crucial service that can be provided by the crowd. This service is mainly offered indirectly through indicating support. Entrepreneurs can capitalize from crowd’s support due to several reasons. On the one hand, many supporters in the crowd can function as a kind of marketing and brand building channel by accelerating the eWOM (electronic Word of Mouth) and making the new venture more popular. Moreover, it can indicate the value of the idea for potential customers, business partners, and especially investors.

Fourth, apart from signalling value to investors, the crowd can provide financial resources themselves. This crowd-based service of crowdfunding is not new and uses a high number of small investments to finance a start-up via an online platform. However, within a crowd-based incubation model, the financing service of the crowd might be advantageous as it lowers the costs for campaigns, creates network effects among potential investors, and might provide already dedicated investors. For instance, when members of the crowd already supported the entrepreneurial idea during parts of or even the whole incubation process, they will be more willing to provide resources to the new venture. In this case, the crowd investor becomes more like a business angel than just a financier and provides both valuable knowledge as well as capital.

Our results indicate that the main benefits of crowd-based incubation services is online access to networks and heterogenous resources that leverage the innovation

potential of the crowd and can be particularly compared to coaching and mentoring. Moreover, crowd-based incubators do not just provide access to networks but rather the crowd themselves is part of the incubator and thus supports the entrepreneur during different phases of the incubation process. Table 3 provides an overview of the derived crowd-based incubation services, their benefits, and a comparison with traditional equivalents.

Table 3 The advantage of crowd-based incubation services

<i>Crowd-based incubation service</i>	<i>Traditional equivalent</i>	<i>Benefits of the crowd approach</i>
Decision support	Coaching/Mentoring	<ul style="list-style-type: none"> ▪ Collective intelligence in validating entrepreneurial assumptions ▪ Heterogenous feedback and advice for developing the idea
Co-creation	Coaching/Mentoring, access to network	<ul style="list-style-type: none"> ▪ Heterogenous knowledge ▪ Distribution of workload ▪ Creative potential of diverse actors ▪ Active co-creation rather than mentoring
Signalling	Access to networks	<ul style="list-style-type: none"> ▪ Higher credibility of crowd signals to potential investors ▪ Higher credibility of crowd signals to potential customers ▪ Higher credibility of crowd signals to potential partners
Financing	Access to networks	<ul style="list-style-type: none"> ▪ Higher number of investors ▪ Network effect among investors ▪ Dedicated investors ▪ Lower transaction cost

Source: Own illustration following Bruneel et al. (2012)

A conceptual model of crowd-based incubation

Based on the findings from the JumpStartFund case, we derived a preliminary conceptual model of crowd-based incubation. The core of any crowd-based incubator is a digital online platform that functions as a boundary spanner and connects entrepreneurs with potential supporters and financiers through a self-selection mechanism. The admission criteria for the platform then ensure quality of both entrepreneurial projects and the crowd. The incubation process has then three main stages during which the crowd-based

incubation services are provided. First, entrepreneurs conceptualize their idea during the “Ideation and Conceptualization” stage. At this time, the most relevant services is decision support in the form of validating the idea and providing guidance for improving it. In the “Project Development” stage the crowd becomes an active co-creator that solves part of the innovation work and continuously supports the entrepreneur’s decisions on what to do next. Finally, during the “Funding” stage the crowd provide signalling and financing services. This means that both direct financial resources and marketing as well as indicating a valuable investment are provided. Figure 2 provides our preliminary conceptual model of crowd-based incubation.

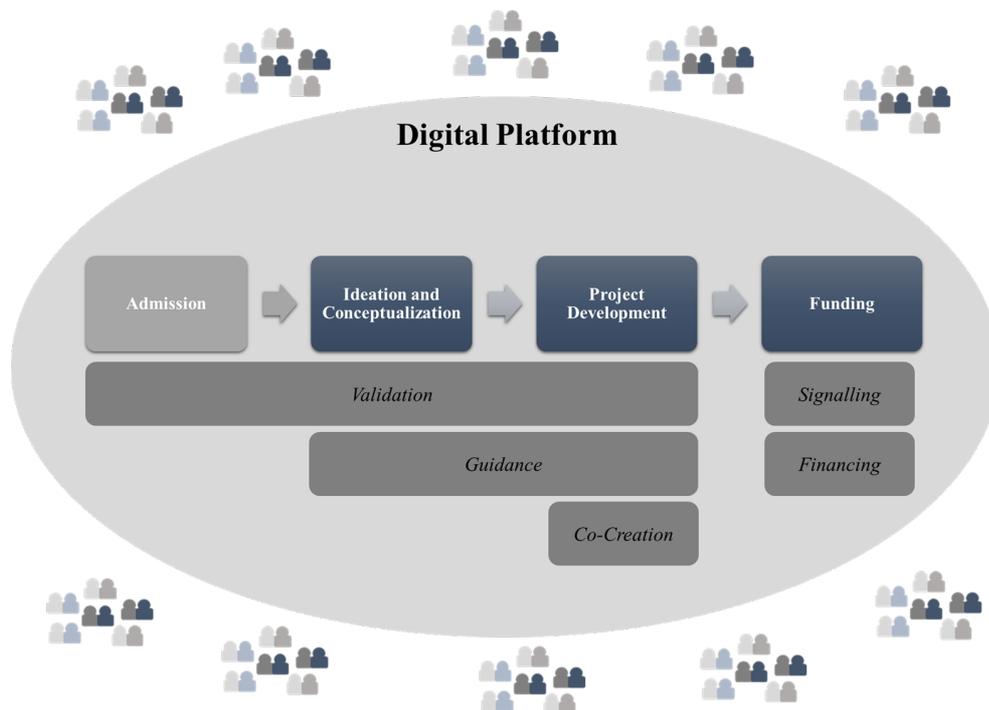


Figure 2 Conceptual model of crowd-based incubation

6 Conclusion

Information technology offers new possibilities to offer virtual services for business incubation. In particular, IT enabled crowdsourcing through an online platform is a suitable mechanism to provide crowd-based incubation services that leverage collective intelligence to support entrepreneurs in creating and enacting their opportunities. Within this paper, we provide a first examination that points towards this direction. By analysing the online incubation platform JumpStartFund in a qualitative single case study research design we conceptualize crowd-based incubation services, their benefits compared to traditional value propositions of business incubators and a preliminary conceptual model of crowd-based incubation.

Our research thus contributes to previous work on business incubators (e.g., Carayannis and von Zedtwitz, 2005; Grimaldi and Grandi, 2005; Pena, 2004) by

highlighting new service provision mechanisms and their advantages. The question whether IT tools can be used in order to facilitate incubation services was not assessed in the past. Consequently, there is an ongoing call for research that sheds light on the effects of employing such virtual incubation services in the course of developing early stage start-ups (Brunnel et al., 2012). Our study contributes to this discussion by providing empirical insights that IT-tools can successfully be used to facilitate virtual incubation.

Second, our research contributes to literature on crowdsourcing especially in the context of crowdsourcing for innovation (e.g., Leimeister et al., 2009; Poetz and Schreier, 2012) by introducing a novel field of application, business incubation. While research on crowdsourcing in the context of innovation in incumbent firms is exhaustive, little is known about the potential applications for entrepreneurs. As outlined in the course of the background section, literature in this field just began to extend the principle of crowdsourcing for innovation to the field of business incubation (e.g., Shepherd 2015). One of the key questions increasingly discussed by academics and practitioners, which are engaged in this stream of research, is whether an undefined crowd of people that is interested in a certain start-up can provide adequate feedback that help these start-ups to further improve their idea. As indicated by the results of our case study, the crowd is indeed capable of providing helpful feedback to early stage start-up's. In this regard, our study delivers first empirical insights that the integration of the crowd into developing new ventures is a promising way to enrich a start-up's founding process.

Third, our preliminary model of crowd-based incubation might inform design oriented research (e.g., Hevner et al., 2004) for designing novel crowd-based incubation service systems in the future. It provides designer of such systems with a theoretically as well as empirically based conceptualization and formalization, to guide their efforts. Thereby we hope to build a first foundation for virtual incubation systems that draw upon theoretical as well as empirical results to facilitate the founding process of early stage startups.

Finally, our findings can inform business incubators with possible extensions for their existing service portfolio. Implementing virtual incubation services, which allow capturing the innovative potential of many stakeholders, could be a means for incubators to cope with the increasing pressure for large scale incubation services and to enrich their existing portfolio with innovative services.

However, our study is not without limitations. Within this research, we just focused on one example of a crowd-based incubator that offers preliminary insights on this topic. As we proceed our research, we will focus on identifying and analyzing similar cases to develop a more comprehensive understanding of this novel approach to virtually support new ventures. Moreover, our methodological approach, which relies on data from secondary sources might be concerned with a perceived distance between the researcher and the context in which the data originate. Therefore, further studies might engage in collecting primary data to justify and complement our findings to theorize about such novel pathways to support entrepreneurship.

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