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Turning Shared into Firm-specific Resources: The Complementarity of Local Ecosystem and Crowdfunding Services

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Abstract

This study helps better understand how entrepreneurial ventures, which typically lack an internal resource base, create venture-specific value from tapping into semi-public resource environments. Based on a multi-case study of 54 entrepreneurial ventures, and guided by the resource-based view, we examine how these ventures enact and combine resources in venture-specific ways from local entrepreneurial ecosystems and Kickstarter, a crowdfunding platform. We find that new ventures apply the complementarity principle to create value from multiple shared resource environments. Globally oriented ventures exploit technologies and skills from local entrepreneurial ecosystems, and use them as brands to mobilize global support through crowdfunding (inside-out strategy). Locally oriented ventures use crowdfunding to augment and catalyze local community support and market-building (outside-in strategy). Our findings contribute to research on how entrepreneurial ventures create value from external resources in general and from sharing economy services, such as crowdfunding platforms, in particular.

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This study helps better understand how entrepreneurial ventures, which typically lack an internal resource base, create venture-specific value from tapping into semi-public resource environments. Based on a multi-case study of 54 entrepreneurial ventures, and guided by the resource-based view, we examine how these ventures enact and combine resources in venture-specific ways from local entrepreneurial ecosystems and Kickstarter, a crowdfunding platform. We find that new ventures apply the complementarity principle to create value from multiple shared resource environments. Globally oriented ventures exploit technologies and skills from local entrepreneurial ecosystems, and use them as brands to mobilize global support through crowdfunding (inside-out strategy). Locally oriented ventures use crowdfunding to augment and catalyze local community support and market-building (outside-in strategy). Our findings contribute to research on how entrepreneurial ventures create value from external resources in general and from sharing economy services, such as crowdfunding platforms, in particular.

Key words: entrepreneurial process, funding, resource value creation, sharing platforms, local ecosystems, complementarity

Introduction

In the process of establishing new ventures, entrepreneurs typically rely on a range of external resources—from capital to talent, knowledge, technology, market access, and legitimacy (Lichtenstein and Brush, 2001; Sullivan and Marvel, 2011). In this context, local entrepreneurial ecosystems (LEEs) play a critical role as support infrastructures (Audretsch et al., 2012; Autio et al., 2014). Such ecosystems are typically constituted by co-located institutions—for example, incubators, accelerators, universities and venture capitalists, communities of firms and professionals, —that jointly provide critical resources and facilitate market access for innovative entrepreneurial ventures (Spigel, 2017). In addition, entrepreneurs make increasing use of sharing platforms, such as crowdfunding and crowdsourcing (Gafni et al., 2018; Steigenberger and Wilhelm, 2018). In particular, crowdfunding platforms (CPs) facilitate financing and marketing of new ventures through a large and diverse audience referred to as the “crowd” (Belleflamme et al., 2013; Mollick, 2014), thereby extending the often limited support capacity of LEEs (Botsman, 2014; Younkin and Kashkooli, 2016).

From an entrepreneurial perspective, both LEEs and CPs show properties of what Wu et al. (2010) term semi-public or shared resources, since entry barriers for accessing and using these support infrastructures are relatively low. While these support services are rather generic, entrepreneurs vary greatly in the extent in which they leverage them (Molina and Martinez, 2003; Wu et al. 2010). Studies in the tradition of the resource-based view (RBV) (Barney, 1991; Wernerfelt, 1984) suggest that firms differ in terms of how they generate value from the resources that they access or acquire (Schmidt and Keil, 2013), which also applies to semi-public resources, such as geographic industry clusters (Wu et al., 2010). Prior studies suggest that one critical means of generating value is by integrating external resources with a firm’s existing resource base (see e.g., Schmidt and Keil, 2013; Wu et al., 2010). However, this explanation mainly applies to established firms, but less to new ventures, which typically lack an internal resource base (Lichtenstein and Brush, 2001).

Based on rich interview, video, and archival data of 54 new ventures and their campaigns on the CP Kickstarter, we analyze strategies of turning semi-public LEE and CP services into venture-specific resources. We focus on the critical interplay of resource acquisition and market development activities that are central to resource value generation (Schmidt and Keil, 2013). We find that new ventures create venture-specific value by using their access to LEEs and CPs in complementary ways, thereby resulting in two major alternative strategies: inside-out and outside-in. *Inside-out strategies* exploit technologies and skills from LEEs, and add value to them by using them as brands in mobilizing global support and legitimacy through CPs. *Outside-in strategies* use CPs to augment and catalyze community support and market development from LEEs. The former strategy is preferred by ventures that are globally and commercially oriented and whose products are typically tangible and high-tech, whereas the latter strategy is applied when new ventures are more locally and socially oriented, and products are rather intangible and low-tech.

Our findings have major implications for future research. First, they inform research on resource value creation by entrepreneurial ventures (Amit and Han, 2017). Specifically, whereas previous research has focused on how value is created by linking external to internal resources in complementary and firm-specific ways (see e.g., Schmidt and Keil, 2013; Wu et al., 2010), we show how the complementary use of external resources—here, LEEs and CPs—can add venture-specific value even when firms lack an internal resource base. Second, we inform research on the sharing economy by adopting a resource-based perspective on how entrepreneurial ventures can tap into and generate specific value from sharing economy services. Third, we enrich the literature on the interplay between LEEs and CPs by analyzing how crowdfunding campaigns are locally embedded, and what constitutes “the crowd,” as entrepreneurs navigate between different resource environments.

Entrepreneurial ecosystems and crowdfunding platforms as semi-public resources

In recent years, practitioners and policymakers made significant efforts to develop local environments that are supportive of new ventures (Autio et al., 2014; Isenberg, 2010). These environments are often called entrepreneurial ecosystems and are composed of localized support networks of incubators, universities, venture capitalists, policies, and communities of firms and professionals (Motoyama and Watkins, 2014; Spigel, 2017). Unlike industry clusters, local entrepreneurial ecosystems (LEEs) focus on providing support infrastructures for new ventures rather than established firms. More specifically, the resources and services that LEE players provide are generic rather than firm-, industry- or technology-specific (Spigel and Harrison, 2018). LEEs typically provide a range of resources, including human resources (technical and managerial talent, as well as domain experts) (Feld, 2012); financial resources (Saxenian, 1996); social network resources (Lafuente et al., 2007); business expertise, access to potential clients and suppliers (Spigel, 2017); and political and legal support.

However, entrepreneurs increasingly depend on resources from multiple, dispersed resource environments. For example, internationally oriented entrepreneurs often tap into multiple ecosystems in various globally dispersed locations (Bresnahan et al., 2001; Drori et al., 2009; Fernhaber et al., 2008; Saxenian, 2005). Most recently, the emergence of the sharing economy has led to a further differentiation of resource environments supporting entrepreneurs (Laamanen et al., 2018). According to Laamanen et al. (2018, p. 214), the sharing economy represents a “radical shift in how business is organized.” Entrepreneurs increasingly tap into sharing platforms to mobilize ideas, solutions, funding, and marketing in support of their new ventures (Belk, 2014).

One important example of how the sharing economy provides new resource environments for entrepreneurs are crowdfunding platforms (CPs). CPs support the marketing and financing of new ventures and connect entrepreneurs to a potentially large group of individual supporters (the “crowd”) via the Internet (Botsman, 2014; Felin et al., 2017; Mollick, 2014). In doing so, CPs increase the

capacity of developers and entrepreneurs to create, market, and distribute their products and services (Belleflamme et al., 2013).

Importantly, CPs and LEEs are distinct resource environments with their own systemic boundaries. Many participants are active in one but not the other. For example, universities and research labs are important institutional members of LEEs, but they typically do not participate as such on crowdfunding platforms, even though some individual researchers might. Likewise, many crowdfunding backers, who come from around the world, may be active on CPs but may not belong to any particular LEE. There might be some overlap in participation, however, not least through the resource acquisition strategies of new ventures, as we see further below. For example, local clients may be part of both the LEE and the CP as potential backers.

Interestingly, what both LEEs and CPs have in common is that their services are semi-public and rather generic. On the one hand, barriers to accessing LEE services, such as entrepreneurship and alumni events, are relatively low. Barriers to using core CP services—such as the ability to post a crowdfunding video and launch a campaign—are even lower. Yet, research shows a high variation in how entrepreneurs utilize LEE resources (see, for an overview, Sundararajan, 2016), and the extent to which CPs are used effectively—not just for raising money but for supporting a new venture through sustainable means (Gafni et al., 2018; Mollick, 2014). On the other hand, both LEE and CP services are rather generic, that is, they are not specific to particular sectors, products, or entrepreneurial needs (see, e.g., Spiegel, 2017). This leads to the question of how new ventures generate specific value from such generic, semi-public services.

Recent studies have begun to explain variation in the use and effectiveness of LEE and CP services. For example, in their study on Kickstarter campaigns, Calic and Mosakowski (2016) find that new ventures with an ecological orientation and third-party endorsement are more likely to raise capital. Moreover, those entrepreneurs who manage to mobilize support networks even prior to initiating a

campaign often end up being more successful (e.g. Colombo et al., 2015). Further, studies suggest that the success of entrepreneurs in mobilizing resources through both LEEs and CPs may be interrelated. Even though, to a certain extent, crowdfunding makes entrepreneurs less dependent on LEE resources (Agrawal et al., 2011), studies show that local embeddedness is important. According to Mollick (2014), this is particularly true for projects that are high-tech, because they continue to rely on highly localized support systems, such as venture capital, incubators, and technology (Agrawal et al., 2011; Chen et al., 2009).

Yet, despite these partial explanations of variation in using LEEs and CPs, we still lack a more systematic understanding of how new ventures generate specific value from these generic and semi-public services in order to promote their competitiveness. To address this question, next, we introduce an extended resource-based view on resource value creation.

Creating value from semi-public resources: An extended resource-based view

How firms create value from resources they have access to has been of scholarly interest for a long period of time (Schmidt and Keil, 2013). The guiding question, particularly to scholars of the so-called resource-based view (RBV), has been how a firm's development, acquisition, and use of resources can explain firm heterogeneity in terms of performance and capabilities in a given industrial, economic, or geographic environment (Barney, 1991; Wernerfelt, 1984). Resources are thereby understood as tangible and intangible assets that are tied semi-permanently to the firm, including technology, talent, knowledge, processes, capital, brand value, and relationships (Wernerfelt, 1984). However, according to the so-called "extended" RBV, resources outside of the direct control of the firm can also contribute to their competitiveness (Wu et al., 2010).

Perhaps, the most prominent application of the extended RBV has been the analysis of the competitive potential of the co-location of firms in geographic industry clusters and their related access to shared or semi-public cluster resources, such as professional communities, talent, universities, and

technologies (Maskell and Malmberg, 1999; Molina and Martinez, 2008). Having access to such shared cluster resources can become a source of competitive advantage for such firms compared to firms outside of the cluster (Li et al., 2015; Molina, 2001; Zaheer and Hachum, 2011). A similar argument has recently been made for the use of sharing platforms, including crowdsourcing, open innovation, and crowdfunding (Amit and Han, 2017). Having access to platforms providing shared resources can become a source of competitive advantage for firms over those that do not enjoy such access (Barrett et al., 2016; Reischauer and Mair, 2018). This is because such platforms provide access to a wide range of potential contributors of ideas, funding, and other resources (Shah and Tripsas, 2007; Zhu and Iansiti, 2012).

More recently, scholars have also begun asking why firms perform differently *within* the same shared resource environment (Wu et al., 2010; Zaheer and Hachum, 2011). Typically, differences are attributed to differences in a firm's internal capacity to exploit shared resources (Wu et al., 2010)—specifically, their capacity to recognize, engage in, transform, and appropriate shared resources (Li et al., 2015; Zaheer and Hachum, 2011). Related to this capacity, the potential to generate firm-specific value from shared resources may depend on their complementarity with internal resources, i.e., the degree to which a shared resource can add value to existing resources and vice versa (Wernerfelt, 2011). For example, the ability of a firm to use and generate value from a new technology developed by a local university may depend on their own expertise in using or developing related technologies (Cohen and Levinthal, 1990; Markman et al., 2005). In addition, Schmidt and Keil (2013) argue that resource value creation not only depends on a firm's existing resource base but also on their market position, their position within information networks, and the expertise and judgment capacity of managers and decision-makers (Amit and Han, 2017). The link between resource and market value is particularly critical (Schmidt and Keil, 2013; Wernerfelt, 1984) because resources, independently and combined,

are only valuable to the extent that they contribute to a firm's survival, growth, or market success (Grimpe and Hussinger, 2014; Penrose, 1959).

The focus of the RBV on explaining firm heterogeneity, including firms' access to shared resource environments, has made it a useful tool for studying patterns of resource acquisition in entrepreneurial processes (Alvarez and Barney, 2010; Alvarez and Busenitz, 2007). For example, entrepreneurship scholars have adopted the RBV to examine how resource acquisition at an early stage can improve operational and managerial processes (Meyskens et al., 2010; Ray, et al., 2004), and how resources can be aligned with aspired target markets (Alvarez and Barney, 2010). However, the manner in which entrepreneurial firms can generate venture-specific value from tapping into shared resource environments is less clear. One major conceptual dilemma is that according to the RBV, the already established resource base of a firm is critical for their ability to create value from external or shared resources (Barney, 1991; Schmidt and Keil, 2013; Amit and Han, 2017). Yet, in the case of new ventures, this internal resource base is very limited. Then, how can differences in using and exploiting shared resources be explained? One explanation has focused on the value and utility of the individual networks of entrepreneurs (Elfring and Hulsink, 2007; Hoang and Antoncic, 2003). However, similar to LEEs, entrepreneurial networks tend to have a rather generic resource value at the beginning of the entrepreneurial process, and become more venture-specific only over time (Hite and Hesterly, 2001). While individual networks are certainly important, the more fundamental question of how generic resources can be turned into more specific ones, when lacking an internal resource base, remains. Thus, we address the following question: *How do new ventures create venture-specific value from using semi-public resources, in particular local ecosystem and crowdfunding services?*

In examining this question, we focus, in line with previous work, on the critical interplay between resource acquisition and market positioning (Alvarez and Barney, 2010; Lichtenstein and Brush, 2001; Schmidt and Keil, 2013). In particular, we examine how entrepreneurial firms use their

access to LEEs and CPs to acquire critical resources, such as technology, funding, market access, and legitimacy, from key resource-holders (Lichtenstein and Brush, 2001), and how strategies of acquiring these resources are related to their aspired market positioning (Aldrich and Fiol, 1994). For example, what is the significance of the entrepreneurial focus on local or global markets in terms of how value is generated from LEE and CP services? Further, rather than merely examining resource acquisition in LEEs and CPs separately, we consider them in conjunction, since engagement in these environments is part of an entrepreneurial process of turning business ideas into viable business models (Lichtenstein and Brush, 2001; Sundararajan, 2016). Finally, we acknowledge that entrepreneurial firms typically focus resource acquisition and market positioning on very specific new products and services (Haeussler, et al., 2010). Thus, strategies of using LEE and CP services, and related resource needs, are likely to be interrelated with characteristics of the very products and services that new ventures develop (Manning and Bejarano, 2017; Mollick, 2014). Next, we introduce and discuss the data used in this study in detail.

Data and methods

We analyze strategies of value creation from using LEEs and CPs through an inductive multi-case study of entrepreneurial ventures and their campaigns on Kickstarter. Findings from this inductive study can be used to assist theory-building, as these findings can help derive and interrelate theoretical constructs and categories for future research (Eisenhardt, 1989; Siggelkow, 2007; Yin, 2003). The main objective is not to “generalize” findings in the statistical sense but to promote “analytical generalization” (Yin, 2013), that is, to construct theoretical relationships and categories from case findings to inform future research (see also Tsang, 2014). As compared to single case studies, our multi-case study design better enables the addition of robustness as well as differentiating findings along important dimensions (Yin, 2013), since “it can be difficult to separate theoretical relationships found in a case, which are generalizable, from idiosyncrasies associated with the case.” (Tsang, 2014: 374).

Thus, our multi-case approach assists in theorizing through a “generalization in small steps” (Diesing, 1971; Yin, 2003; Weick, 1995).

Concretely, we compare and interrelate findings across 54 crowdfunding campaigns launched on Kickstarter between 2012 and 2015. Kickstarter was established in 2006 in order to provide new ventures with funding opportunities beyond the established banking system (see also Botsman, 2014). To launch Kickstarter campaigns, initiators set a funding target and deadline until which the target had to be met; 55% of Kickstarter projects meet their funding target (Lamidi, 2017). However, even after a funding target is met, projects can continue raising money until the funding deadline is reached, which is why those projects that meet the target typically exceed it. Funding can come from any user, whereby individual contributions may vary from \$1 to \$10,000, depending on the pledges and rewards decided upon by the campaign initiators. The initiators receive money only if the funding target is met; in turn, they commit themselves to sending out rewards to funders. These can range from symbolic rewards (t-shirts, posters), to actual products, invitations, meetings, and events. Kickstarter campaigns combine multiple goals—from raising funds, to marketing products and mobilizing community support (Manning and Bejarano, 2017). Campaigns tend to have a creative edge, and they can range from high-tech, software, fashion, and food to social and artistic ventures.

The selection of new ventures and their Kickstarter campaigns was guided by our theoretical interest in identifying major strategies of value creation by new ventures that run campaigns on CPs, while also tapping into LEEs. As is typical for inductive multi-case designs (see, e.g., Tsang, 2014), case selection was further motivated by our interest in the effect of certain factors—particularly market orientation, product characteristics, and related resource needs—while controlling for other potential sources of variation (Eisenhardt, 1989). With regard to the latter, we excluded campaigns that seemed like “hobby projects” of individual people. Instead, we focused on more serious professional undertakings with significant investments and a longer-term interest in marketability. For this reason,

we focused on ventures pursued by entrepreneurial teams (rather than individuals), and campaigns with a minimum target of \$5,000 (Huang, 2018). Although we did not set an upper funding target limit, our sample largely reflects the size distribution of projects on Kickstarter, with most projects below and only very few above \$100k (Kickstarter, 2018).

Data was collected in multiple rounds, combining the logics of “literal” and “theoretical” replication, i.e., adding robustness by examining similar ventures (literal) and adding differentiation by increasing case variety along theoretically important dimensions (theoretical) (Yin, 2003). We concluded that strategies of value creation vary strongly by type and market orientation of venture, while being only a weak indicator of funding success. We discuss this finding in greater detail later. Overall, through our three rounds of data collection, we were able to establish sufficient robustness of our main findings. As is recommended by case method scholars, once data collection and inductive theorizing reach a saturation point (within the scope of the study), data collection can be stopped (Yin, 2013).

For each case and across all cases, three major data sources were mobilized to generate findings of high validity (Yin, 2013): videos, interviews, and archival data. First, we analyzed the professionally transcribed videos of all selected campaigns. Videos are the primary means of communicating projects to audiences through Kickstarter and are, thus, regarded as a key vehicle for generating funding (Mollick, 2014). They tell entrepreneurial stories of projects in a rather condensed manner, ranging from one to five minutes in length. The content indicates a critical choice by entrepreneurs regarding how diverse audiences are addressed to mobilize support. Second, we interviewed the initiators of all campaigns selected in the first two rounds of data collection. These interviews helped us better understand how new ventures tap into LEEs—for idea and technology development, recruitment, reaching out to lead users and test clients—as well as what role crowdfunding campaigns played in their overall strategy. Third, we used archival data on Kickstarter and other websites to collect

additional data on product features as well as on performance statistics of all the campaigns that we studied. For example, we collected information on locations of campaign initiators, number of backers, percentage of new backers, and geographical distribution of backers. This data enabled us to identify differences in effects of different crowdfunding strategies along with critical contingencies. To protect the anonymity of the ventures, we used synonyms throughout the paper.

In our analysis, we combined case-specific insights with an analysis of patterns across the case population. In particular, we focused on how entrepreneurs discuss how they acquired critical venture-specific resources (technology, financial support, client feedback, etc.), how they developed their market positioning (local vs. global orientation and value proposition), and how they jointly utilized LEEs and CPs in support of their venture. In coding and interpreting our data, we used the RBV as a guide. Of particular importance was the question of how externally available “semi-public” services, such as LEEs and CPs, can be turned into more venture-specific resources and what factors drive this transformation process (Schmidt and Keil, 2013; Wu et al., 2010).

In our case analysis, we first performed an explorative round of *first-order coding* of videos and interviews, focusing on how new ventures go about acquiring resources, creating and communicating product value, and reaching out to potential clients and markets. Consequently, we identified various recurring patterns of combining LEE with CP services in support of new ventures (see Figure 2). We grouped these patterns into *second-order codes*, whereby each code represents a distinct method of mobilizing resources and adding value through the LEE and CP, respectively. To enrich our analysis, we integrated key descriptive indicators from archival sources (e.g., percentage of new vs. established backers, and percentage of local vs. global backers) as “codes” into the coding tree (see Figure 1). In other words, we chose to interpret quantitative indicators as qualitative markers in support of our two main inductive strategies. Thereafter, we interrelated conceptual categories and codes, similar to the praxis of axial coding (Charmaz, 2006), and generated *third-order codes* that

demarcate the two main value-creating strategies we find in our data—the inside-out and the outside-in strategy. We describe them in detail next.

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Creating value from crowdfunding campaigns and local ecosystems

In terms of their target funding, campaigns ranged from \$5,000 to \$710,000. Actual funding ranged from \$10,789 to \$2,945,885. Entrepreneurial teams are typically small and did not exceed ten people at the time that campaigns are launched. Further, 44 ventures reached or exceeded their funding target and were, thus, able to utilize the funding; 10 ventures did not attain their funding target. We further categorized ventures into ones with a rather local vs. global market orientation, and we characterized ventures in terms of the level of tangibility of the product or service (high/low), the level of technological sophistication (high/low), and the level of social vs. commercial orientation (high/low).

Our main findings suggest that those new ventures that succeeded with funding use LEE and CP services in complementary ways to support their venture, thereby adding venture-specific value to these services. *Complementarity* means that the value created from LEE resources is elevated by crowdfunding, and, in turn, that crowdfunding campaigns benefit from the manner in which LEE resources are referenced in the campaigns. Importantly, this principle of complementarity allows ventures to turn LEE and CP services into venture-specific resources without the need to “internalize” them. However, the manner in which complementarity is applied differs across the case population. In this regard, we identified the inside-out and outside-in strategies. Following Pratt (2009), we use “power quotes” as evidence from videos and interviews in the manuscript, while providing “proof quotes” as additional evidence in table format (Table 1). Further, we use a few guiding cases in the text to better illustrate the various dimensions of each strategy.

Inside-out strategy

In our sample, 31 ventures successfully pursue what we call an inside-out strategy. This strategy enhances the resource value of the LEE and CP in complementary ways. Ventures in this category use LEEs mainly for skill and technology development. These are risky investments whose return depend on marketability and scale. CPs provide a channel through which pilot products can be marketed and scaled up faster. CPs thus serve as an interface through which new products are ‘brought out’ to global markets from ‘inside’ the LEE (inside-out). In turn, the success of crowdfunding campaigns relies on smart branding of the product, technology, and skill base. In this context, the global brand value of local institutions, such as Massachusetts Institute of Technology (MIT), plays a vital role, which is why MIT is often mentioned explicitly in these campaigns. Examples include a high-resolution 3D printer for professional creators; a system to design and build educational robots; and a voice-activated USB device for passwords.

Our descriptive analysis across cases suggests that campaigns in this category share specific features. First, backers are typically distributed across many different locations and countries. For example, from among the 2,068 backers that supported PRINTER1, only 3% are from the home LEE, Greater Boston. On average, across all campaigns in this category, only 4% of backers come from the venture’s home location. In fact, a large percentage of backers typically come from outside the country. Further, the typical crowdfunding backer of such campaigns is very active on CPs and is experienced with backing other campaigns before. This is indicated by a rather low percentage of new backers. On average, only 33% of backers in this case population are first-time backers. Finally, successful inside-out campaigns tend to gain high traction, as they focus on global demand. Average overshoot (funding raised minus initial target) is 470% (min 1%, max 2846%). Next, we describe in strategy in detail.

Exploiting local ecosystems for skill and technology development

Ventures that adopt an inside-out strategy typically utilize LEEs for skill and technology development, relying heavily on professional communities and institutional support from universities (see also Table D). For example, the developers of PRINTER1 have close connections with the university system in Boston, specifically to MIT. Not only did all the core team members meet at and graduate from MIT, but MIT also provided a lab and an important test user base for the product itself.

Within the MIT system, the MIT Media Lab is particularly critical, as it concentrates resources and support around cutting-edge high-tech projects. Both inventors and investors are affiliated with Media Lab to speed up commercialization. The interview with the PRINTER1 developers illustrates,

“The large bulk of team is engineers; mechanical and software. [...]. The team is very technology focused... We have good investors. Joi Ito, director of the Media Lab at MIT, Mitch Kapor, as well as a couple small angel funds like Eric Schmidt’s Innovation Endeavors.”

Another important driver of entrepreneurial projects at MIT are cross-disciplinary start-up competitions. This is how the team behind FASHION2 got together: a combination of engineers, business students, and former consultants. In addition, MIT connects young developers to venture capitalists whose initial support is critical in getting such projects started. FASHION2, which has by now grown into a successful business apparel brand, began with a business shirt based on NASA-tested materials that regulate temperature and prevent odor and wrinkling. The video of the campaign promotes this technology transfer as part of the value proposition:

“As MIT engineers, we design space suits that regulate astronauts’ body temperature using phase change material. We use that same technology in [our new shirt].”

This is a good example of the complementarity effect: by referring to their MIT and engineering background in their campaign, the FASHION2 team not only connects the campaign to the LEE, but they leverage the MIT brand as a resource for the campaign.

Exploiting crowdfunding platforms for global market support

While LEEs serve mainly as an institutional resource base in an inside-out strategy, crowdfunding campaigns are used as a window to audiences outside the LEE. Importantly, these audiences are not merely targeted for funding purposes—and thus for accelerating the development of ventures—but for testing market appeal and developing a market position that is suitable for initial products. This becomes very clear in the interview with the founders of SECURE:

“Kickstarter was a test market for us, what the general market would feel about this product. This brings me back to my role and experience which is mostly in sales/marketing I wanted to see if this was operational, I am comfortable with putting teams together and moving products forward to accomplish a goals, but was unsure of the product idea itself. Because of the high contribution of our backers and overall support of our project we decided to move forward.”

Ventures adopting an inside-out strategy use CPs in rather *specific* ways. Rather than simply mobilizing funding for product ideas, the campaign is used to market and sell prototypes and test the scalability of initial product lines. Related to this, many products developed by these ventures are fairly technology driven, sharing rather high upfront investments. Even if entrepreneurs receive early positive feedback in the LEE, crowdfunding is used to lower risks and evaluate the actual feasibility of products and the ability to break even in the future. Thus, crowdfunding helps realize the resource value of locally sourced technologies, which is an important aspect of complementarity.

Certain ventures that adopt an inside-out strategy are less technology-driven, but share product ideas that are so novel and “niche” that local feedback is insufficient to evaluate their market potential. This was the case with the project GROW, which was about selling pencils with seeds inside. This product was aimed at writers, artists, and lovers of plants who share the idea of having pencils that cannot only be used for writing but also gardening. The founder of the venture recalls how important the Kickstarter campaign was to build the market for the product:

“We just had a bunch of prototypes. We didn't really have a market or any way to get it out there. Or enough orders to make a production run possible. Kickstarter gave us access to a

really broad market and it was a really good market validator and got us a lot of media attention that we could use to attract distributors and potential customers.”

Ventures that adopt an inside-out strategy use crowdfunding and other online platforms to build a fan base around projects, which can help not only attain funding targets but lay the foundation for a lead user market. Therefore, initiators would also use their local institutional roots—, e.g. MIT—as entry points to online communities, thereby stimulating marketing and funding rather than attempting to use and penetrate local communities as test markets. The founder of GROW recalls,

“We reached out to the MIT community mostly via twitter and then some of that got picked up by some design blogs and then after that, there wasn't a whole lot of media coverage until the very end. Most of it was word-of-mouth and twitter, a little bit of getting friends to post it on their Facebook's and then once it started to accumulate some design blog coverage and environmental blog coverage we got a few more people.”

Outside-in strategy

The second major value-creation strategy we find is called the outside-in strategy, which is effectively applied by 13 ventures in our sample. *Outside-in strategies* use LEEs for idea development and market building, mostly by tapping into local communities rather than institutional ecosystem resources. Thereafter, crowdfunding campaigns are used to augment, harness, and catalyze local community support by establishing a channel through which resources from supporters can be “brought from the outside into” the local context of venture development (outside-in). This strategy also enhances the resource value of LEE and crowdfunding services in complementary ways, yet differs from inside-out strategies. Here, local community support as a primary local resource is turned into a funding source through crowdfunding, and crowdfunding is extended into a “community-oriented support platform,” attracting both funders from within the community and those from outside who support community projects. Examples of such ventures include FOODTRUCK1, a venture focused on providing high-quality Asian food on a food truck in urban food deserts; NEWSPAPER, a venture focused on

revitalizing a local newspaper; and BREWERY1, an initiative to set up a pub with integrated brewery and brewing courses.

Ventures following an outside-in strategy also share specific characteristics. First, backers of related campaigns are typically highly concentrated in particular locations, including the location of origin. On average, 35% of backers are from the home location of a venture (compared to 3% in the case of the inside-out strategy). This implies such campaigns help mobilize the local community to a significant degree to support a venture they might already know of through friends and local ties. However, a large percentage of backers also come from *outside* the local community, often from regions similar to the location of origin. Moreover, unlike backers of campaigns following an inside-out strategy, most backers supporting campaigns with an outside-in strategy originate from the same country as the entrepreneur—here, mainly the U.S.—which indicates that cultural affiliation is important for such ventures to mobilize support. Further, a high percentage of crowdfunding backers—53% on average—are new backers, mostly from the local community itself, who have never backed a campaign before. Finally, the outside-in campaigns in our sample have, on average, 32% overshoot from the initial target, which is lower than inside-out campaigns. In other words, funding success here means hitting the target rather than overshooting it.

Mobilizing communities in local ecosystems for idea development and market building

Ventures following an outside-in strategy make extensive use of LEE resources, but in different ways than ventures adopting an inside-out strategy. Outside-in strategies leverage the local context for early feedback, market testing, and alliance-building, mainly by mobilizing established ties in the local community. One good example of such projects is BREWERY1, an initiative to launch an educational brewery in North Carolina. Unlike high-tech ventures that are driven by technological advancements and the appetite for new gadgets around the world, BREWERY1 is a project that is strongly embedded

in the local community. One key to early idea development was a sense of a “local demand” for such a venture and the availability of partners (see for other examples, Table II):

“We wanted to open a tasting room for beer lovers. [...] a destination place for visitors, drive buyers and locals. [...] We know that locals would want such a place. [...] We have also launched partnerships with restaurants in the area, for example to sell sandwiches in the tasting room.” (Member of the founding team of BREWERY1)

Another example is FARM1, a rooftop gardening project in Boston that provides food for the local neighborhood, while also utilizing unused roof space. As the founders explain in the interview, having local community support was key for it to take off. This included volunteer helpers from the community, government ties, and connections to restaurants and distributors:

“There is the restaurant network which is everybody that [we] have become friends with or colleagues with that have supported them and said yes, this is a good idea. [...] And then we probably had 50 maybe 60 direct volunteers that have helped us in some way so far. We’ve had offers from a couple of hundred people who want to help once the farm is ready. Then there are also people involved in the institutional government side. People in various offices that [we] will need to interact with in order to install and operate.”

This community orientation is also reflected in crowdfunding campaigns. While campaigns in line with the inside-out strategy often refer to the local context in terms of local institutions that have added value to initial products, outside-in strategies rely on campaigns that build a “community narrative” around their venture. For example, the FARM1 campaign video begins with the two main founders standing on the Boston design center and describing how they can see the Boston skyline. They go on to identify themselves as “being farmers in a city,” providing substantial information on the context and purpose of the project, and mentioning various connections to local farmers’ markets and restaurants. Through such stories, the value of local community resources is “enhanced” by crowdfunding, as they become embedded into a narrative that appeals to both locals watching the crowdfunding campaign and supporters from outside the local community.

Using crowdfunding to augment and catalyze local community support

One major element of the outside-in strategy is to catalyze already existing local support by using Kickstarter to bundle local financial resources from dispersed volunteers, partner organizations, and friends into a shared fund. The co-founder of FOODTRUCK1 illustrates,

“A lot of funding came from people [another co-founder] knows from school and from the restaurants he worked at in New York. Some from our family and friends, but probably mostly from the restaurants. Some just from people online.”

Another example of this strategy is the abovementioned case of FARM1. In particular, the interviewees mention the importance of Kickstarter in channeling funding from clients and partner organizations:

“Anyone that said yes, this is a good idea, helped. There have been a lot of folks who have been more vocal. Several of these chefs and shop owners have contributed to the Kickstarter campaign.”

These two examples illustrate how through the “resource-bundling” function of Kickstarter, new ventures following the outside-in approach can fully utilize their local community resources, which demonstrates another important instance of venture-specific complementarity.

However, crowdfunding also helps reach out to new locals who learn about a project “online.” Since an increasing amount of marketing and communication happens through social media, particularly in urban settings, using online platforms has become an essential element of local marketing as well. This becomes clear in the case of the project NEWSPAPER, which used social media and Kickstarter deliberately to inform people about the undertaking. The founder recalls,

“Naturally, the idea of Kickstarter came up because it is so linked to crowdsource funding, and that’s something we thought would be a big strength because we were working from a pool of 60 years of people reading the website. We figured that would be a good way to have people support us and become informed that we were coming back and get involved in their own way.”

Even more interestingly, outside-in campaigns not only help activate support from participants in the local ecosystem itself, but also bring in support from other ecosystems with particular cultural or institutional affiliations. One very interesting example is FARM2, a project dedicated to educating kids

about dairy farming in a Caribbean country (name concealed). While the project is deeply locally embedded—with connections to local government, schools, farms etc., similar to FARM1—the ability to raise money within that particular location has been rather limited. Thus, crowdfunding became a complementary means to attract people and organizations from *outside* the region who sympathize with the project, even if they do not directly benefit from it.

This partially explains why in the case of FARM2 most backers come from Geneva, including some larger-scale donors. Geneva is a hub of government and development agencies, and also a center for financial institutions. Crowdfunding provided FARM2 the means to establish a funding channel to backers and organizations in such places. In view of that opportunity, the founders of FARM2 ensured that their presentation on Kickstarter comes across as a legitimate development project that values impact, transparency, and professionalism. One founder explains,

“We’ve been taking a grassroots approach to this by using Kickstarter as a fundraiser, and we are very transparent. There’s a lot of scams out there, especially in the non-profit world, where you don’t know where your money goes to but we’re making ours very transparent. We’re going to be posting our accounting records, we’re going to be posting videos, so people can really see that their money is going to something legitimate.”

Consequently, FARM2 was able to mobilize an astonishing number of backers who would never support a project before—75% of all backers were new. While the percentage of new backers (83%) was similarly high in the case of BREWERY1, which is a typical feature of outside-in campaigns, the case of FARM2 illustrates that outside-in strategies may also mobilize new backers from outside the local community who sympathize with the project through the crowdfunding campaign. This, in turn, makes even those locally embedded undertakings feasible that happen to be located in smaller or more remote ecosystems, such as the Caribbean islands.

Resource value creation and venture characteristics

Our findings suggest that strategies of complementary value creation from LEEs and crowdfunding campaigns are related to specific resource needs on the one hand, and the market orientation of the venture on the other hand. We now examine these contingencies in greater detail.

First, and most importantly, the choice of strategy that a venture pursues appears to be related to whether the venture is locally or globally oriented. Ventures with a local market orientation favor an outside-in strategy, whereas ventures with a global market orientation favor an inside-out strategy. This can be illustrated by comparing PRINTER1 and BREWERY1. From the outset, PRINTER1 considered all engineers, designers and scientists who depend on 3D printing as their audience. While the founding team got together and developed their idea at Greater Boston-based MIT, their perceived demand for cheap 3D printing at MIT itself was not considered locally specific, but rather as an indicator for a global need among academics around the world. In contrast, BREWERY1 was designed as a specifically local project that ties into local partnerships and the needs of the local community. As described above, this is also the case for the ventures FARM1 and FARM2.

Accordingly, initiators of crowdfunding campaigns are typically very explicit in their interviews regarding their intention to either expand globally through Kickstarter or further penetrate the local market (also see examples in Table I). ROBOT1 is an example of the former:

“We decided to go international through Kickstarter because we knew that it was the only way to afford such a big marketing campaign... we found in Kickstarter an excellent way of showing the product and getting people interested in doing business. We even got some investors interested, some distributors.”

Importantly, both locally and globally oriented ventures benefit from tapping into LEE resources, and from combining their access to LEEs and CPs in complementary ways to add value to the resources

that are critical to them and that they have (or seek) access to. The only difference is in how they apply the principle of complementarity.

Apart from market orientation, findings suggest that certain characteristics of the venture—specifically, features of the product or service they go to market with—has an effect on how LEE and crowdfunding resources and services are utilized. Three features stand out: level of tangibility, technological sophistication, and commercial vs. social orientation.

First, ventures pursuing an inside-out strategy typically focus on tangible products, whereas new ventures following an outside-in strategy typically focus on more intangible projects. In other words, the value proposition of the former is mainly based on products that can be seen, touched, and used in a tangible manner. A typical example of this are robots, 3D printers, and other devices. In contrast, rather intangible projects derive their value from user and/or customer experience. Examples include restaurants and cultural projects. Often, intangible projects are deeply embedded in a particular local context, which is why they often target local audiences.

Second, the level of technological sophistication appears to play a critical role. High-tech products, such as robots and 3D printers, make an inside-out strategy very likely; on the other hand, low-tech products, such food trucks and restaurants, often fall into the outside-in category. While high-tech products are often globally oriented, not least because of the need to scale up production to cover upfront investments, there are a few notable exceptions. For example, project POOL, which deals with water cleaning and utilization for recreation in the Hudson River in New York, is clearly a locally embedded initiative with intangible elements (the experience of swimming in the Hudson River). However, compared to restaurant and food projects, it is very high-tech as well. In this case, like in others as well, the local vs. global market orientation dominates the value-creation strategy, which explains the high percentage of regional and national backers (78%) and the relatively high percentage of first-time backers (45%)—both features of an outside-in strategy.

Third, ventures that focus on commercial value typically pursue an inside-out strategy, whereas socially oriented ventures typically follow an outside-in strategy. This is partially because there is a strong correlation between social orientation and local embeddedness. Examples include food trucks serving local food deserts and farming projects facilitating local access to healthy food. In contrast, most ventures developing products for global demand (e.g., robots, clothing, and printers) are commercially oriented. We find that many commercially oriented ventures in our study typically have access to conventional funding mechanisms, whereas socially oriented ventures often lack these mechanisms. This is why crowdfunding becomes an important means to channel funding for the latter, whereas crowdfunding is more of a marketing tool for the former.

As mentioned above, in our sample, we find products that combine different features. Those that are high-tech, commercially oriented, tangible, *and* target global audiences are likely to be linked to inside-out strategies. Similarly, those ventures that are low-tech, socially oriented, intangible, *and* target local audiences, such as FOODTRUCK1 and NEWSPAPER, are very likely to pursue outside-in strategies. Among those with mixed characteristics, such as POOL, we find that certain features dominate the choice of strategy, whereas others are of secondary importance. In particular, we find that the degree to which ventures target local/regional or global audiences strongly influences the strategy adopted.

Finally, our sample helps address how or to what extent the resource value creation strategy is related to funding success. Many of the cases that failed to attain their funding targets either lack access to critical LEE resources or do not sufficiently leverage LEE resources in their crowdfunding campaigns. Specifically, locally oriented projects that did not meet funding targets often failed to present a convincing narrative that may attract local communities. For example, while COMMUNITY, an economic development project in Virginia, stated the ambition to “help local business and local

artists by bringing the community together”, it did not sufficiently establish local community ties prior to launching the campaign.

Similarly, unfunded globally oriented campaigns would go at length to discuss the product but make insufficient use of the brand value of local institutional ties. However, it is important to note that failure to meet funding targets does not imply that ventures fail; on the other hand, the ability to meet targets is only a weak indicator of longer-term venture success. Therefore, we refrain from drawing conclusions regarding any “performance effects.” Instead, our main focus is on how resource needs and market orientation drive resource value-creation strategies.

Discussion: The Role of Complementarity in Creating Value from Shared Resources

This study has examined how new ventures create venture-specific value from using semi-public shared resources, particularly LEEs and CPs. We find that complementarity is a key mechanism by which new ventures can turn multiple, generic semi-public resources into value-creating ones. Next, we develop propositions for future research with regard to drivers and effects of complementarity in creating value from shared resources (see figure II). In particular, the goal of this discussion section is to extend existing theory on resource value creation (Schmidt and Keil, 2013). Specifically, we explain how, in the context of new ventures, the principle of complementarity as a resource value-generating mechanism may apply to shared resources and services outside the direct control of the firm.

>>> INSERT FIGURE II ABOUT HERE <<<<

Our findings suggest that the key to understanding the linkage between LEEs and CPs are the resource acquisition strategies of entrepreneurs (Isenberg, 2011). According to the RBV, the principle of complementarity is key in making resources idiosyncratic to the firm (Schmidt and Keil, 2013; Wernerfelt, 2011), including semi-public resources such as geographic clusters (Wu et al., 2010). One key source of complementarity, is the existing resource base of the firm, which reduces the cost of

acquiring a new resource or increases the value of that resource once acquired (Schmidt and Keil, 2013). Accordingly, Schmidt and Keil (2013, p.214) posit that “the higher the level of complementarity allowed by a firm’s existing resource base resulting from competitive improvement, the greater the value of the resource to a firm.”

This study extends this research by arguing that complementarity can generate value from semi-public resources even *without* an elaborate internal resource base—a condition that is typical for entrepreneurial firms in particular, which are the focus of this study. Specifically, new ventures can turn LEEs and CPs into value-generating venture-specific resources by using them in complementary ways, in line with their resource needs and market positioning. Thereby, LEE resources become *more* valuable for new ventures when combined with crowdfunding campaigns exploiting these resources. In turn, the value of crowdfunding campaigns *increases* when building on the resources that entrepreneurs mobilize in LEEs. For example, we showed that for local rooftop farms, links to local restaurants as potential customers can be critical. Moreover, crowdfunding campaigns can turn local restaurants into funders who take an interest in the funding success of their new potential supplier. This in turn adds value to crowdfunding, as prior local links not only increase the likelihood of funding but as crowdfunding becomes a tool to strengthen local community ties. Thereby, the multivocal roles of backers—as funders, users/buyers, and potential beneficiaries (Belleflamme et al., 2013)—becomes an important facilitator of complementarity. However, only the deliberate strategic use of crowdfunding as a means to complement and add value to LEE resources can realize the value-creating potential of complementarity. Thus, we make the following proposition:

Proposition 1: The higher the level of complementarity a new venture accomplishes in jointly accessing and using local ecosystem and crowdfunding services, the greater the resource value of these services to a new venture.

Second, our findings extend prior research by explaining firm heterogeneity in shared resource environments (Wu et al., 2010; Zaheer and Hachum, 2011). In the geographic cluster literature, the

argument has been that firm heterogeneity in clusters in terms of performance can be partially explained by the different ability of firms to internalize and connect shared resources, e.g. university ties, with their internal resource base, e.g. their own R&D labs (Wu et al., 2010). Similarly, prior studies suggest that heterogeneity in venture performance in the same LEE can partially be explained by differences in skills, experience and networks of the entrepreneur (Neumeier, et al., 2018; Spigel and Harrison, 2018; Westlund and Bolton, 2003).

We add to this body of research by focusing on the value of using crowdfunding and LEE resources and services in complementary ways. According to the RBV, possessing or having access to complementary resources in a distinctive manner is a source of competitive advantage (Barney, 1991). Following Proposition 1, those new ventures that manage to use LEE and CP services in complementary ways will have a competitive advantage over ventures that either do not utilize both resource environments or fail to use them in complementary ways. Related to this, our sample of unfunded crowdfunding campaigns suggests a link between funding success and the ability to generate complementarity. Therefore, we propose that within a particular LEE, those new ventures that use LEE services and crowdfunding in complementary ways will increase the resource value of both and generate an initial competitive advantage over other new ventures in the same LEE.

Prior research further suggests that the value of a resource is contingent upon the product or market-specific uses it can generate (Penrose, 1959; Schmidt and Keil, 2013; Wernerfelt, 1984). We showed accordingly that the way in which new ventures use LEEs and CPs depends a lot on their market orientation. New ventures with a local market orientation (LMOVs) depend on access to local communities in turning their business idea into a marketable business model. They primarily use the LEE to establish critical community ties to buyers, suppliers, and talent. LMOVs thus specialize in using crowdfunding to augment and exploit local community ties as resources, thereby increasing their venture-specific value (outside-in strategy). This will provide them an initial competitive advantage in

targeting local markets over ventures that either do not have access to community ties or that make insufficient use of them in their crowdfunding narratives. In comparison, new ventures with a global market orientation (GMOVs) depend a lot on access to local institutions that serve as providers of talent and technology in order to develop their venture (see also Audretsch, et al., 2005; Stuart and Sorenson, 2003). We show that successfully funded campaigns of GMOVs mobilize funders and simultaneously enhance their local institutional ties by exploiting their global brand value in their crowdfunding narratives (inside-out strategy). This provides them an initial competitive advantage in targeting global markets over ventures from the same ecosystem that either do not have access to local institutions or that make insufficient use of them as brands in their crowdfunding narratives. Thus, we make the following proposition:

Proposition 2a: New ventures with a local market orientation (LMOVs) that use crowdfunding to augment and exploit local community ties as resources (outside-in strategy) will have an initial competitive advantage over those LMOVs that lack local community ties or that do not use crowdfunding to augment and exploit them.

Proposition 2b: New ventures with a global market orientation (GMOVs) that use crowdfunding to exploit the brand value of local institutions as resources (inside-out strategy) will have an initial competitive advantage over those GMOVs that do not have access to local institutions or that do not use crowdfunding to exploit their brand value.

Third, we find that particular features of products with which new ventures seek to enter the market affect the strategy of creating value from LEEs and crowdfunding campaigns. This again corresponds with the idea that the value of resources is contingent upon the services they generate for particular purposes (Penrose, 1959). More specifically, according to our findings, while local vs. global market orientation appears to be the primary driver for choosing either inside-out or outside-in strategies, these choices are reinforced by certain product features, particularly among successfully funded campaigns, which are associated with particular resource needs that are more easily met through certain resource acquisition strategies rather than others (see also Teece, 2010).

First, we find that GMOVs typically develop highly tangible products, e.g., clothing, printers, and gadgets, whereas LMOVs often specialize in intangible services, e.g., restaurants and art projects. Material elements are important “boundary objects” for the understanding of what projects are about (Alderman et al., 2005) and where their potential value lies (Teece, 2010). Tangible boundary objects can literally be “presented”, whereas projects that lack those objects are more ambiguous in value (Weick, 1995). Their “utility” is often highly subjective and experience-based, which is why they are referred to as “experience goods” (Hirsch, 1972; Lampel et al., 2000). Such experiences are often contextual and highly localized, as they are affected by norms and cultures in certain places. Highly tangible projects and visible products, by comparison, are more easily presented and marketed to dispersed global audiences. Further, they can typically be exported and shipped globally.

In addition, we find that sophistication of technology is of some significance in how value is created from LEEs and CP services. More specifically, products with sophisticated technology, such as 3D printers and software, are typically promoted through inside-out strategies, whereas products relying on more basic technology, such as food, are often promoted through outside-in strategies. High-tech products often happen to be global in their market orientation. They are often dependent on considerable upfront investments in technology development (Liao and Welsch, 2008; Colombo and Piva, 2012). Crowdfunding campaigns are used to scale up market efforts and generate return on investment. In comparison, low-tech ventures, such as food trucks, create value through contextualization, including locally embedded stories (Manning and Bejarano, 2017). Thus, they tend to be more local and benefit more from outside-in value-creation strategies.

Finally, the degree of social vs. commercial orientation of ventures may affect the manner in which LEE and CP services are utilized. Social orientation refers to the extent to which ventures serve social causes, rather than merely generating revenue (Battilana and Lee, 2014; Haigh and Hoffman, 2014; Porter and Kramer, 2011). We find that ventures with a strong social orientation, such as food

trucks, are often strongly embedded in local communities and thus lend themselves to outside-in strategies. In contrast, commercial projects are more easily scalable and less focused on or motivated by the needs of particular local communities. While local markets may serve as “test markets”, the longer-term goal of such ventures is global marketability. Therefore, commercially oriented products are more likely to benefit from inside-out strategies. Overall, we propose:

Proposition 3a: New ventures with a local market orientation (LMOVs) whose projects are intangible, technologically unsophisticated, and/or socially oriented will generate more value from an outside-in strategy than LMOVs whose projects do not share these features.

Proposition 3b: New ventures with a global market orientation (GMOVs) whose projects are tangible, technologically sophisticated, and/or commercially oriented will generate more value from an inside-out strategy than GMOVs whose projects do not share these features.

Implications for future research

First, we inform research on resource value creation by entrepreneurial ventures (Calic and Mosakowski, 2016; Lichtenstein and Brush, 2001). While most prior research has focused on how firms create value by internalizing resources or connecting external to internal resources (Schmidt and Keil, 2013; Wu et al., 2010), we have emphasized that entrepreneurial firms typically lack an internal resource base, making resource value creation problematic (Rasmussen, et al., 2011). In addition, owing to new technology and business models, resource acquisition is increasingly substituted by leasing, temporary use, and outsourcing (Belk, 2014; Sundararajan, 2016). Thus, the manner in which new ventures utilize external resource environments, even if they lack an internal resource base, becomes increasingly relevant. Our study suggests that apart from internalization, new ventures can generate value by combining access to *external* resource environments in complementary ways. This may radically change our view on “where” value creation happens. Hence, our study discusses the possibility that venture-specific value creation can occur “outside” of the firm, e.g., at the interface between different external resource environments that new ventures tap into. A more processual and

less proprietary understanding of resource value creation is needed to better understand such resource value creation dynamics.

In this regard, our study also informs research on identity formation of entrepreneurial ventures, even though identity was not our primary focus. Our findings strongly suggest a link between resource value creation and identity formation, because the manner in which new ventures create value is related to how they position themselves in the market (Schmidt and Keil, 2013). As indicated by others, superior resource complementarities may act as self-reinforcing mechanisms shaping a firm's evolutionary path and amplifying differences in competitive positions (Barney, 1991). Our findings suggest that one micro-foundation of such evolutionary paths is what the German sociologist Georg Simmel called the "intersection of social circles" (Simmel, 1890): the way in which new ventures position themselves within different communities and resource environments. Thus, our findings further link questions of identity formation, value creation, and competitiveness to the community embeddedness of new ventures (Jennings et al., 2013).

Second, we inform research on value creation on sharing platforms by adopting an RBV perspective. Prior research has shown why sharing platforms become increasingly important (see Seamans and Zhu, 2016; Zhu and Iansiti, 2012), and how firms must adapt to successfully participate in sharing platforms, since the latter pose "a radical shift in how business is organized" (Laamanen et al., 2018, p. 214). Prior studies have illustrated how sharing platforms reconfigure how communities interact with each other (Reischauer and Mair, 2018), how participants build legitimacy (Vaskelainen and Munzel, 2018; Uzunca et al., 2018), and how stakeholders are managed (Belk, 2014; Botsman, 2014). Conversely, our study suggests that participants in sharing platforms, such as crowdfunding portals, also "adapt the platform" to their specific needs. While certain sharing platforms may have a specific, pre-defined utility (Adner and Kapoor, 2010), others are rather ambiguous with regard to how value can be generated (see also Adner, 2013, 2017). In the latter case, the strategic direction of a firm

may shape the manner in which sharing platforms are used and value is generated. Moreover, our study suggests that firms may increasingly participate in multiple, more or less “shared” ecosystems and platforms simultaneously, which further shapes the utility of each platform. For example, the potential value of crowdfunding platforms as “marketing tools” has arguably evolved over time, as populations of firm users have found complementary ways of using crowdfunding as part of their larger entrepreneurial trajectory (Calic and Mosakowski, 2016). Therefore, we encourage future studies to focus less on how sharing platforms “change business” but on how business models that emerge from strategic intersections between sharing platforms and more conventional value chains and ecosystems modify the use and utility of sharing platforms.

Third, our study serves to specify how crowdfunding campaigns are interrelated with LEEs and business contexts in general. Crowdfunding research has focused primarily on crowdfunding strategies and success factors (Colombo et al., 2015; Mollick, 2014). For example, our findings point to how the “crowd” is embedded in local ecosystems and value chains. In locally oriented projects, many “backers” are often very specific stakeholders who act as clients or suppliers in the local entrepreneurial ecosystem (LEE) and who are “turned into” backers through crowdfunding. In this regard, our findings caution us not to simply treat crowdfunding as an “alternative means” to mobilize support outside the conventional system of financial and business support (Botsman, 2014), but to rather treat it as an infrastructure through which both existing and new stakeholders can be mobilized in new ways. More broadly, this suggests to look more carefully at the background of “users” of sharing platforms and “peers” in peer-to-peer systems. This may also influence our understanding of dynamics of adopting sharing platforms (Hamari et al., 2016), as well as strategic responses of “incumbents” of “conventional” local and global production systems to those platforms (e.g., Botsman, 2014; Sundararajan, 2014).

In turn, our findings encourage future studies to more carefully examine how sharing platforms change the utility of LEEs for start-ups. In contemporary descriptions of building blocks of LEE (e.g., Spigel, 2017; Stam, 2015), sharing platforms are surprisingly absent. Our study suggests that they can be vital to the resourcefulness of LEE services. While, on the one hand, LEE services may be insufficient in supporting certain types of businesses, on the other hand, crowdfunding presents an opportunity for LEE players—such as universities, incubators, and local businesses—to enrich the spectrum of their services to start-ups by making the successful design of crowdfunding campaigns a more integral part of their support. Thus, we recommend further study of how and to what extent local institutions utilize sharing platforms in supporting businesses, and what challenges and potential conflicts such support strategies imply.

This study also has some notable limitations that may inspire future research. First, our findings may be affected by the selection of ventures that were included, e.g. from “entrepreneurial hubs” such as Boston. Future research must expand beyond such contexts. Second, although this study draws upon a diverse and rich data set, it lacks longitudinal data. Future research could examine the actual process of reaching out to different ecosystems and platforms to better capture how resource value creation takes place over time. Third, our findings may be affected by our theoretical frame, i.e., the RBV. While the RBV provided a useful perspective on resource value creation, other perspectives may shed light on other aspects, e.g. from the viewpoint of communities and the environment. Finally, more research is needed to better understand what other factors, including the background of entrepreneurs or the composition of entrepreneurial teams, affect value-creation strategies in shared resource environments.

To conclude, this study contributes to a better understanding of firm-specific value creation across multiple semi-public resource environments. Findings are of relevance to entrepreneurship research, firm strategy, and policymaking. Our study demonstrates that value creation in the sharing

economy comes from how businesses reconnect sharing economy services to business models and local ecosystems.

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FIGURES AND TABLES

Figure I: Coding tree

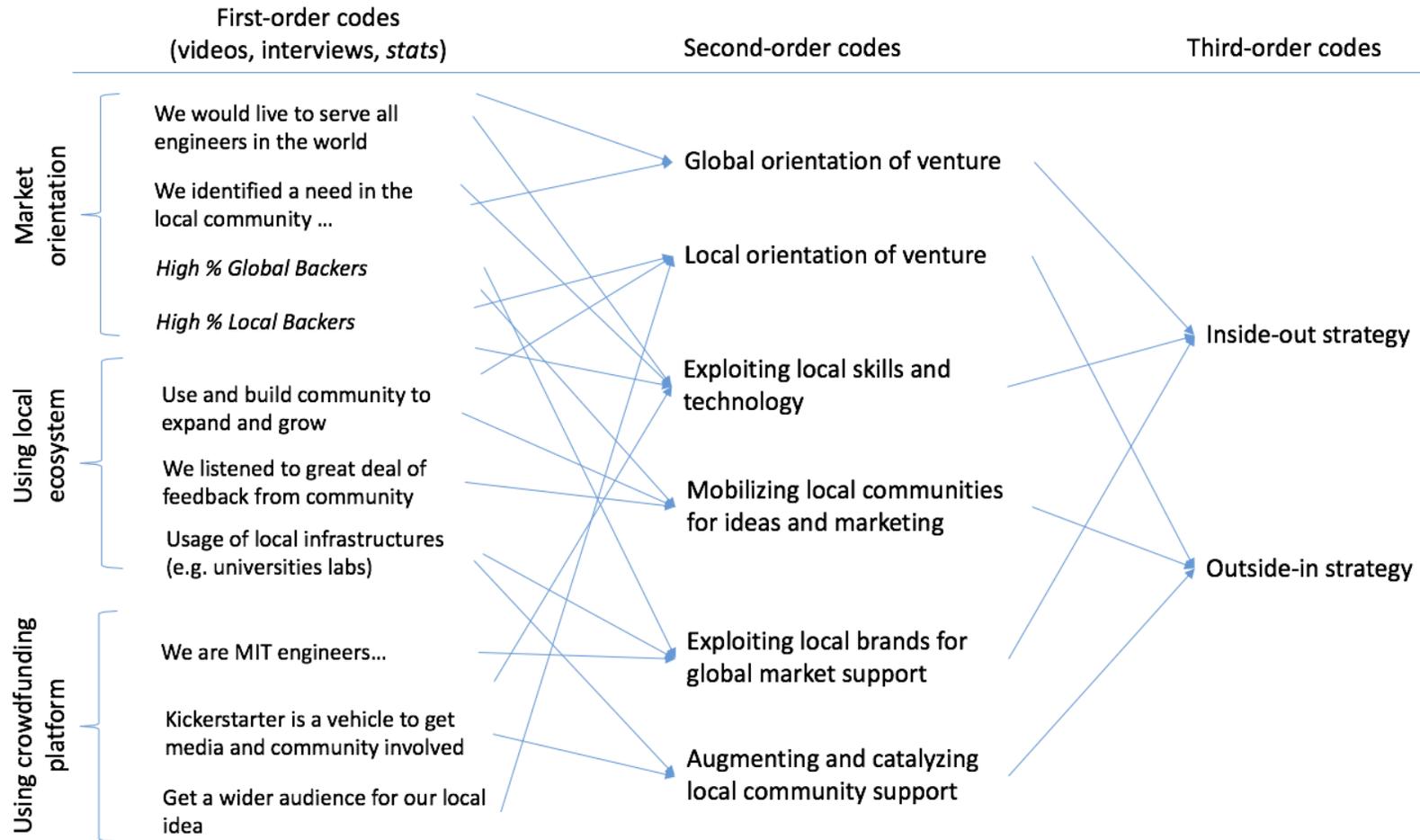


Figure II: Strategies of resource value creation from local ecosystems and crowdfunding campaigns

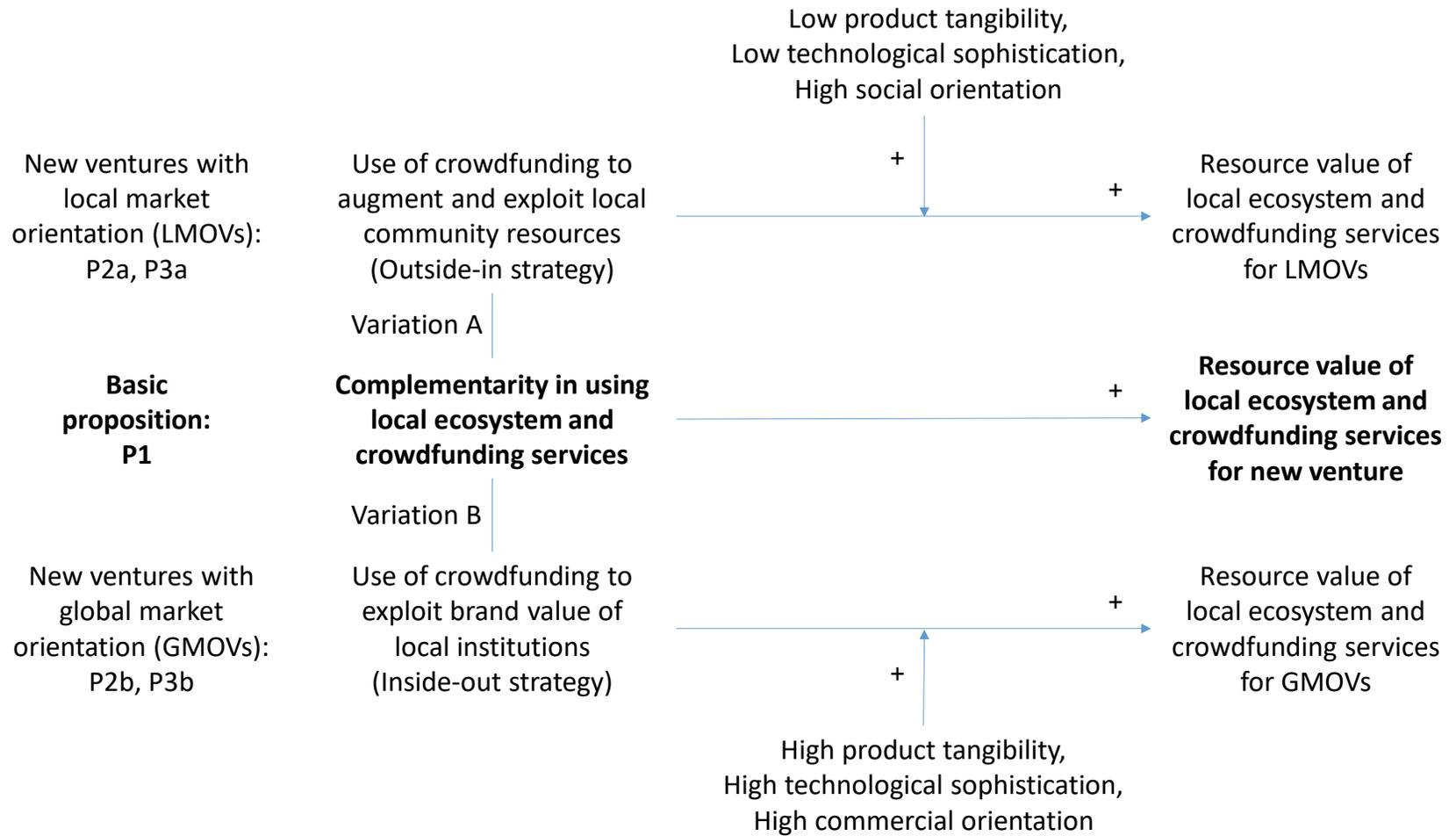


Table I: Proof quotes supporting core elements of each resource value creating strategy

2 nd order code	Data/excerpts/quotations/vignettes
Inside-out strategy	
Global orientation of venture	<p>“We decided to build the world's first theft resistant bike light to make cycling safer.” (Video 27, BICYCLE2)</p> <p>„We want to grow our business aggressively. In 1-5 years we'll see the shift from traditional agriculture to the type of agriculture we built our product for. There is a need for this type of product not only in US but also in India and Israel, and globally. (Interview 22; INTERNET)</p>
Exploiting local skills and technology	<p>“As MIT engineer, [...] we're literally taking technology from space and putting it in your shirt. [...] [Shirt] has the power to actually absorb and release heat, like a battery, and by pulling that heat away from your body it leaves you feeling much cooler.” (Video 7, FASHION2)</p> <p>„I always had a BlackBerry, my daughter who is now a sophomore in college had just purchased an iPhone. She could not get used to the touchscreen at and could not either. We decided right then to go the garage and make our first prototype of what would become [product]. “(Interview 11; PHONE1)</p>
Exploiting local brands for global support	<p>“We designed Grow in a product design course at MIT and we're excited to see the product bear fruit.” (Video transcript 6, GROW)</p> <p>“We're engineering students at [UMass] Lowell. We're really excited to introduce our innovative new product to a global audience. (Interview 40, PHONE6)</p>
Outside-in strategy	
Local orientation of venture	<p>„We came here (to [Caribbean Island]), to help local farmers. (...) There are a lot of challenges too, in a developing island, I would say close to 50% are unemployed right now. The economy is not good. So that's why like the our project is a cool thing for them to have this opportunity, and most of the people we have working with us, you know they're part of the team.“ (Interview 2, FARM2)</p> <p>“We intend to supply a small batch of hand crafted quality beers that resonate the beauty of our local, regional, and state communities. We intend to be one of the best breweries in North Carolina.” (Video 28, BREWERY1)</p>
Mobilizing local communities for ideas and marketing	<p>”Listened to a great deal of feedback from the community. ” (Interview 29, AUDIO2)</p> <p>„I raised \$35,000 on Kickstarter. Kickstarter is all about awareness and marketing. It's a marketing platform. I was able to go out there, do a cool video and basically tell the community that I want you to be involved. Kickstarter is no investment vehicle because people don't get shares or equity. It's a vehicle to get the media and community involved.“ (Interview 42; BREWERY2)</p>
Augmenting and catalyzing local community support	<p>“Basically our model is to farm creatively in urban spaces. We want to be part of the community. Taking advantage that we're a farm and we're farmers in a city and being able to connect to our market much more readily because we're not traveling from the rural areas of town.” (Video 30, FARM1)</p> <p>„What my organization is trying to do is just create a space where people can talk about these things because that's really the only thing that we can do. None of us are politicians, and none of us are going to run for office. So, the only thing we can do is bring people together who think the same things and create a community” (Interview 1, NEWSPAPER)</p>

