Proximity as Enabler to Crowd Investors Exploitation:

A Theoretical framework

Francesca Di Pietro Trinity Business School Trinity College Dublin Francesca.dipietro@tcd.ie

Abstract

The ability to leverage external networks for knowledge acquisition and exploitation it is extremely important for new ventures. Crowdfunding offers the possibility to leverage crowd investors' to acquire competences, skills and network.

In this paper we introduce a conceptual framework which considers the potential enablers of crowd funders involvement in funded company's activities. We consider proximity - in its three main facets, i.e. geographical, social and cognitive - as relevant factors that may increase crowd funders activism.

Keywords: Crowdfunding, Knowledge acquisition, geographical proximity, social proximity, cognitive proximity

1. Introduction

The literature agrees that collaboration with stakeholders is beneficial and necessary for the start-up, and compensates for lack of internal resources and competences (Aldrich and Auster, 1986; Stinchcombe, 1965; Lichtenstein and Brush, 2001). However, exploiting external resources, such as crowd investors, can be difficult for new ventures for several reasons (Salter et al., 2014), related to both their firm-level capabilities (Alexy et al., 2012) and their employees and managers' attitudes (Schierjott et al., 2018).

A recent strand of work highlights the role of organizational design for integrating external knowledge in the firm, facilitating interactions with external knowledge sources, and exploiting opportunities (Jansen et al., 2005). For instance, Foss et al. (2011) suggest that use of new

organizational practices, namely, vertical and lateral communication, rewarding employees for sharing and acquiring knowledge, and delegation of decision rights, makes it easier for firms to access customer knowledge. Also, establishing direct channels of communication with external sources via dedicated departments, or interdependencies with internal technology investments, facilitates use of external knowledge (Heimeriks et al., 2007; Noseleit and de Faria 2013; Wuyts and Dutta 2014). In addition to firm-level capabilities, the firm's engagement with external sources is influenced by employees' and managers' attitudes (Schierjott et al., 2018; Agrawal et al., 2010; Chesbrough, 2003). Also, external relationships can depend on the entrepreneur's personal links and willingness to engage with external parties (Ahn et al., 2017).

Despite the constraints on external knowledge exploitation highlighted in the literature, the crowdfunding context is characterized by peculiarities, linked to linked to: (i) crowd investors' characteristics; and (ii) Internet-based transactions, that lead to the emergence of other potential challenges related to exploiting crowd investors to obtain external knowledge. Crowdfunding allows the entrepreneur to gather online financing from the crowd (Lambert and Schwienbacher, 2010; Belleflamme et al., 2013). Crowdfunding and its underlying concept, Web 2.0, allows participation, collaboration, and communication between investors and new ventures and, thus, knowledge exchange. Crowd participation affects new venture development and growth and contributes, in particular, to knowledge and network development (Di Pietro et al., 2018).

We propose a theoretical framework to explain equity investors' exploitation and linkages, using a proximity lens. Proximity, Boschma (2005) suggests, is a multidimensional concept, which includes geographical proximity (same spatial area), cognitive proximity (same knowledge base), and social proximity (common relationships).

Geographical proximity influences the exchange of information, by increasing the probability

of collaboration, by producing spontaneous social and professional interactions, and by increasing the probability of face-to-face interactions (Dyer & Nobeoka, 2000). Additionally, cognitive proximity, is necessary for acquiring information and knowledge from other people (Cohen & Levinthal, 1990). Similarities in current knowledge stocks enhance the transfer of knowledge, whereas differences tend to delay or prevent the absorption of new knowledge from a partner (Lane & Lubatkin, 1998). Social proximity, promoting trust inside business relationships, makes reciprocal knowledge acquisition more efficient, by reducing the risk of opportunistic behaviour and by encouraging informal relations considered more effective for acquiring external knowledge (Nahapiet & Ghoshal, 1998).

It is suggested, also, that proximity, in some (but not necessarily all) of its dimensions, is required to promote connections among actors and to enable learning and knowledge exchange. In what follows, we explain our conceptual model and the different forms of proximity that can hamper or facilitate knowledge transfer between entrepreneurs and the crowd.

2. Theoretical model

Geographical, social, and cognitive proximity

Geographical proximity between the new venture and its partners is considered an important parameter that the new venture can use to exploit external knowledge (Alcacer and Chung, 2007; Audretsch and Lehmann, 2006). Geographical proximity influences information exchange by increasing the probability of collaboration, by producing spontaneous, social, and professional interactions, and by increasing the probability of face-to-face interactions (Dyer and Nobeoka, 2000). In the context of electronic commerce, the literature shows that, although the cost of the distance between buyers and sellers is reduced, information-related costs exist and remain an important impediment to remote transactions (Blum and Goldfarb, 2006; Hortaçsu et al., 2009). The importance of geographical proximity is also addressed in work on

crowdfunding. Prior work shows that distance matters for crowdfunding investment decisions, and that online transactions are more likely between buyers and sellers in the same geographical area (see, e.g., Agrawal et al., 2011; 2015, Ordanini et al., 2011; Lin and Viswanathan, 2015; Hortaçsu et al., 2009). Non-local investors are disadvantaged, relative to local investors, in their access to local information, networks, capital, and resources and, typically, incur higher information asymmetries and transaction costs (Guenther et al. 2018; Ordanini et al., 2011; Hornuf and Schmitt, 2016; Boschma, 2005; Agrawal et al., 2011). In line with the argument in the extant literature that geographical proximity helps to reduce information asymmetry and facilitates interactions and collaboration, we posit that equity crowd funders located in the same geographical area as the entrepreneur will be more likely to

be involved in company activities.

Proposition 1: Geographical proximity between crowd investors and entrepreneurs will encourage exploitation of crowd investors knowledge.

However, recent studies suggest that geographical proximity cannot be assessed in isolation. Geographical proximity per se is neither a necessary nor a sufficient condition for the process of knowledge acquisition (Boschma, 2005; Antonelli, 2000), since other nontangible dimensions of proximity can act as substitutes for geographical proximity (Boschma, 2005; Boschma and Lambooy, 1999). In particular, these authors argue that the importance of geographical proximity will be weakened if the partners share the same cognitive experience (cognitive proximity) and if the relationship between partners is socially embedded and, thus, is characterized by a high level of trust (social proximity) – and especially in the case of tacit knowledge. This justifies our interest in the other two dimensions of proximity.

The notion of cognitive proximity suggests people sharing the same knowledge base and

expertise can learn from each other (Boschma, 2005). The effective transfer of knowledge requires absorptive capacity to identify, interpret, and exploit new knowledge (Cohen and Levinthal, 1990). Thus, actors' or firms' capacity to absorb new knowledge requires cognitive proximity because this facilitates effective communication (Boschma, 2005).

Similarity knowledge stocks enhances the transfer of knowledge while differences tend to delay or prevent the absorption of the partner's knowledge (Lane & Lubatkin, 1998). Empirical studies confirm the positive effect of cognitive proximity on knowledge exploitation (Huber, 2012; Molina-Morales et al., 2014; Dakhli and de Clercq, 2004; Presutti et al., 2011).

This is true, specifically, in the context of crowdfunding, which presents certain other peculiarities. Among these is the fact that entrepreneurs cannot choose their crowd investors. Therefore, lack of knowledge specific to the business is another reason for low or lack of involvement with investor communities. Specifically, start-ups at an embryonic stage of development, need mentoring and support related to how to run the business, and expertise in the focal business sector. Entrepreneurs look to establish relationships with people with such expertise and an understanding of the critical components of the business proposition.

If the similarities in actors' knowledge is low, that is, the cognitive proximity between crowd investors and entrepreneurs is small, this can generate low levels of external engagement activities.

Therefore, we posit:

Proposition 2: Cognitive proximity between crowd investors and entrepreneurs will encourage exploitation of crowd investors' knowledge.

Lastly, the concept of social proximity derives from the literature on embeddedness (Granovetter, 1985), which states that relationships between partners are socially embedded if

they involve a high level of trust. The presence of trust in the business relationship allows more efficient reciprocal knowledge acquisition because it reduces the risks of opportunistic behaviour and encouraged informal relations which are considered more effective for acquiring external knowledge (Nahapiet and Ghoshal, 1998). A tie based on high levels of reciprocal trust reinforces the process of knowledge exploitation (Presutti et al., 2011; Agrawal et al., 2008)

In the crowdfunding context, the importance of social proximity has been investigated in relation to predicting successful crowdfunding fundraising (Agrawal et al., 2015). Friends and family ties represent an important share of the financial support from crowdfunding (Mollick, 2014). This strand of work acknowledges the relevance of social ties and trust among proponents and fundraisers, over the geographical proximity among the parties. This result is important since it shows that social ties are more significant than distance for explaining the decision to invest in a project.

In the case of involvement of crowd investors in the post-funding phase, lack of trust is often a major deterrent to effective external engagement in crowdfunding. Faced with the impossibility of choosing among and controlling who is included in the crowd, the entrepreneurs may find it difficult to identify genuine interest in investing in the company versus potential competitors seeking access to sensitive company information. Revealing company information related to products, growth strategy, partnerships, fundraising, etc., to large numbers of unknown people can be problematic. Because crowdfunding reaches a very broad audience through the web, it lacks the trust involved in traditional fundraising through private transactions with professional investors. Therefore, entrepreneurs are likely to be more willing to engage with crowd investors if they establish a personal relationship with them and can organize face to face meetings to allow the entrepreneur to assess the investors' interest in the company. Therefore, we posit:

6

Proposition 3: Social proximity between crowd investors and entrepreneurs will encourage exploitation of crowd investors' knowledge.

Figure 1 depicts the conceptual model of different forms of proximity and their influence on exploiting crowd investors as external knowledge sources.



Figure 1: The influence of different forms of proximity on crowd investors' knowledge exploitation

3. Discussion

In a globalizing world where new technologies promote and facilitate mobility of resources (Aizenman and Kendall, 2012; Agrawal et al., 2015; Lin and Viswanathan, 2016), we would argue that distance-related economic frictions remain a strong barrier to resources and knowledge exchanges (Li et al., 2014; Dai et al., 2012; Lin and Viswanathan, 2016; Siegel et. al., 2012; Hornuf and Schmitt, 2016; Liu and Maula, 2016), for both economic (e.g. information asymmetries and transactions costs) and, behavioural reasons (including familiarity bias and trust in local opportunities) (Huberman, 2001; Lai and Teo, 2008). However, other form of proximity, such as social and cognitive proximity, may moderate the negative impact of geographical distance and favour exchanges of resources and knowledge.

Social relationships tend to exist not just in physical space but also in social space (Sorenson, 2018). Thus, people tend to have relationships with similar others —similar religion, culture, education level, and with experience in the same types of firms and industries (Miller et al., 2001). Therefore, leveraging social ties facilitates the creation of networks, enhances trust, and increase the chances of cooperation (Lim and Putnam, 2010) between crowd investors and the entrepreneur.

Also, very important for establishing relationships with external stakeholders, such as crowd investors, is a common knowledge base. Crowd investors offer a range of expertise and knowledge which the entrepreneur can tap into. It is important, therefore, for the entrepreneur to investigate investors' profiles to identify what they can bring to the company and how their expertise can be leveraged to support firm development.

4. Conclusion

Understanding how new ventures exploit external knowledge to moderate the liability of newness is an important focus in the study of entrepreneurship (Rosenbush et al., 2013). Our model contributes to this field and to the crowdfunding literature by proposing a theoretical framework that may explain the challenges of exploiting crowd investors, as they represent a critical source of information and knowledge for entrepreneurs (Di Pietro et al., 2018).

Specifically, we consider the role of geographical proximity along with other nontangible dimensions of proximity – social proximity and cognitive proximity – that may act as a substitute for geographical proximity (Boshma, 2005; Boshma & Lambooy, 1999).

We argued that crowdfunders, if involved, could give valuable contributions such as knowledge, skills, and network, to entrepreneurs (Di Pietro et al., 2018). Proximity, in all aspects considered here, can definitely play a crucial role, by positively influencing the involvement of the crowd.

Our model contributes to the entrepreneurial finance and the crowdfunding literature by proposing that the impact of proximity on crowd funders' involvement is crucial in understanding how new ventures might benefit from external knowledge.

Several opportunities for empirical research are related to the model. Many of the constructs have already been operationalized in prior research, in particular geographical, social, and cognitive proximity and new venture performance. Although the concept of "involvement" has been measured by some studies in the crowdfunding literature (Di Pietro et al. 2018), testing out its dimensions in a new empirical context and for new ventures represents a challenge for future research. Future empirical research could look deeper into this direct effect by understanding the post-crowdfunding phase, the role of investors as a source of knowledge and information, and under which conditions their contribution can be crucial for young and innovative start-ups.

References

- Agrawal, A., Catalini, C. and Goldfarb, A., 2015. Crowdfunding: Geography, social networks, and the timing of investment decisions. *Journal of Economics & Management Strategy*, 24(2), pp.253-274.
- Agrawal, A., Cockburn, I. and Rosell, C., 2010. Not invented here? Innovation in company towns. *Journal of Urban Economics*, 67(1), pp.78-89.
- Agrawal, A., Kapur, D. and McHale, J., 2008. How do spatial and social proximity influence knowledge flows? Evidence from patent data. *Journal of urban economics*, 64(2), pp.258-269.
- Agrawal, A.K., Catalini, C. and Goldfarb, A., 2011. *The geography of crowdfunding* (No. w16820). National bureau of economic research.
- Ahn, J.M., Minshall, T. and Mortara, L., 2017. Understanding the human side of openness: the fit between open innovation modes and CEO characteristics. *R&D Management*, 47(5), pp.727-740.
- Aizenman, J. and Kendall, J., 2012. The internationalization of venture capital. *Journal of Economic Studies*, 39(5), pp.488-511.
- Alcácer, J. and Chung, W., 2007. Location strategies and knowledge spillovers. *Management science*, 53(5), pp.760-776.
- Aldrich, H. and Auster, E.R., 1986. Even dwarfs started small: Liabilities of age and size and their strategic implications. *Research in organizational behavior*.
- Alexy, O., Criscuolo, P. and Salter, A., 2012. Managing unsolicited ideas for R&D. *California Management Review*, 54(3), pp.116-139.
- Antonelli, C. (2000). Collective Knowledge Communication and Innovation: The Evidence of Technological Districts. *Regional Studies*, *34*, 535–547.
- Audretsch, D.B. and Lehmann, E., (2006). Entrepreneurial access and absorption of knowledge spillovers: Strategic board and managerial composition for competitive advantage. Journal of *Small Business Management*, 44(2), pp.155-166.
- Belleflamme, P., Lambert, T., & Schwienbacher, A. (2013). Crowdfunding: Tapping the right crowd. *Journal of Business Venturing*.
- Blum, B.S. and Goldfarb, A., (2006). Does the internet defy the law of gravity?. *Journal of international economics*, 70(2), pp.384-405.
- Boschma, R. A., & Lambooy, J. G. (1999). Evolutionary economics and economic geography. *Journal of evolutionary economics*, 9(4), 411-429.
- Boschma, R., 2005. Proximity and innovation: a critical assessment. *Regional studies*, 39(1), pp.61-74.
- Chesbrough, H., 2003. The logic of open innovation: managing intellectual property. *California management review*, 45(3), pp.33-58.
- Cohen, W.M. and Levinthal, D.A., 1990. Absorptive capacity: A new perspective on learning and innovation. *Administrative science quarterly*, *35*(1), pp.128-152.
- Dai, N., Jo, H. and Kassicieh, S., 2012. Cross-border venture capital investments in Asia: Selection and exit performance. *Journal of Business Venturing*, 27(6), pp.666-684.
- Dakhli, M. and De Clercq, D., 2004. Human capital, social capital, and innovation: a multicountry study. *Entrepreneurship & regional development*, 16(2), pp.107-128.

- Dyer, J.H. and Nobeoka, K., 2000. Creating and managing a high-performance knowledgesharing network: the Toyota case. *Strategic management journal*, 21(3), pp.345-367.
- Di Pietro, F., Prencipe, A. and Majchrzak, A., 2018. Crowd equity investors: an underutilized asset for open innovation in startups. *California Management Review*, 60(2), pp.43-70.
- Foss, N.J., Laursen, K. and Pedersen, T., 2011. Linking customer interaction and innovation: The mediating role of new organizational practices. *Organization Science*, 22(4), pp.980-999.
- Granovetter, M., 1985. Economic action and social structure: The problem of embeddedness. *American journal of sociology*, *91*(3), pp.481-510.
- Guenther, C., Johan, S. and Schweizer, D., 2018. Is the crowd sensitive to distance?—How investment decisions differ by investor type. *Small Business Economics*, 50(2), pp.289-305.
- Heimeriks, K.H., Duysters, G. and Vanhaverbeke, W., 2007. Learning mechanisms and differential performance in alliance portfolios. *Strategic organization*, 5(4), pp.373-408.
- Hornuf, L. and Schmitt, M., 2016. Does a Local Bias Exist in Equity Crowdfunding?. *Max Planck Institute for Innovation & Competition Research Paper*, (16-07).
- Huber, F., 2012. On the role and interrelationship of spatial, social and cognitive proximity: Personal knowledge relationships of R&D workers in the Cambridge information technology cluster. *Regional studies*, 46(9), pp.1169-1182.
- Huberman, G., 2001. Familiarity breeds investment. *The Review of Financial Studies*, 14(3), pp.659-680.
- Jansen, J.J., Van Den Bosch, F.A. and Volberda, H.W., 2005. Managing potential and realized absorptive capacity: how do organizational antecedents matter?. *Academy of management journal*, 48(6), pp.999-1015.
- Lai, S. and Teo, M., 2008. Home-biased analysts in emerging markets. *Journal of Financial* and Quantitative Analysis, 43(3), pp.685-716.
- Lambert, T. and Schwienbacher, A., 2010. An empirical analysis of crowdfunding. *Social Science Research Network, 1578175*, pp.1-23.
- Lane, P.J. and Lubatkin, M., 1998. Relative absorptive capacity and interorganizational learning. *Strategic management journal*, 19(5), pp.461-477.
- Li, Y., Vertinsky, I.B. and Li, J., 2014. National distances, international experience, and venture capital investment performance. *Journal of Business Venturing*, 29(4), pp.471-489.
- Lin, M. and Viswanathan, S., 2015. Home bias in online investments: An empirical study of an online crowdfunding market. *Management Science*, 62(5), pp.1393-1414.
- Lichtenstein, B. M. B., & Brush, C. G. (2001). How Do 'Resource Bundles' Develop and Change in New Ventures? A Dynamic Model and Longitudinal Exploration. *Entrepreneurship Theory and Practice*, 25(3), 37–58.
- Liu, Y. and Maula, M., 2016. Local partnering in foreign ventures: Uncertainty, experiential learning, and syndication in cross-border venture capital investments. *Academy of Management Journal*, 59(4), pp.1407-1429.
- Miller McPherson, J, Lynn Smith-Lovin, and James M Cook. 2001. "Birds of a feather: Homophily in social networks." *Annual Review of Sociology*, 27 (1):415-444.
- Molina-Morales, F.X., García-Villaverde, P.M. and Parra-Requena, G., 2014. Geographical and cognitive proximity effects on innovation performance in SMEs: a way through knowledge acquisition. *International Entrepreneurship and Management Journal*, *10*(2), pp.231-251.
- Mollick, E., 2014. The dynamics of crowdfunding: An exploratory study. *Journal of business* venturing, 29(1), pp.1-16.

- Nahapiet, J. and Ghoshal, S., 1998. Social capital, intellectual capital, and the organizational advantage. *Academy of management review*, 23(2), pp.242-266.
- Noseleit, F. and de Faria, P., 2013. Complementarities of internal R&D and alliances with different partner types. *Journal of Business Research*, *66*(10), pp.2000-2006.
- Ordanini, A., Miceli, L., Pizzetti, M. and Parasuraman, A., 2011. Crowd-funding: transforming customers into investors through innovative service platforms. *Journal of service management*, 22(4), pp.443-470.
- Presutti, M., Boari, C. and Majocchi, A., 2011. The importance of proximity for the start-ups' knowledge acquisition and exploitation. *Journal of Small Business Management*, 49(3), pp.361-389.
- Rosenbusch, N., Brinckmann, J., & Müller, V. (2013). Does acquiring venture capital pay off for the funded firms? A meta-analysis on the relationship between venture capital investment and funded firm financial performance. *Journal of business venturing*, 28(3), 335-353.
- Salter, A., Criscuolo, P. and Ter Wal, A.L., 2014. Coping with open innovation: responding to the challenges of external engagement in R&D. *California Management Review*, 56(2), pp.77-94.
- Schierjott, I., Brennecke, J. and Rank, O.N., 2018. Entrepreneurial Attitudes as Drivers of Managers' Boundary-Spanning Knowledge Ties in the Context of High-Tech Clusters. *Journal of Small Business Management*, 56, pp.108-131.
- Siegel, J.I., Licht, A.N. and Schwartz, S.H., 2011. Egalitarianism and international investment. *Journal of Financial Economics*, 102(3), pp.621-642.
- Sorenson, Olav. 2018. "Social networks and the geography of entrepreneurship." Small Business Economics, 51 (3):527-537.
- Stinchcombe, A.L., (1965). Social structure and organizations. In: March, J.G. (Ed.), Handbook of Organizations. Rand McNally, Chicago.
- Wuyts, S. and Dutta, S., 2014. Benefiting from alliance portfolio diversity: The role of past internal knowledge creation strategy. *Journal of Management*, 40(6), pp.1653-1674.