

Proximities and the emergence of regional industry: evidence of the liability of smallness in Malta

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ABSTRACT

The interplays of different types of proximities are crucial to the emergence of new industries, including entrepreneurial ecosystems as pillar of the competitive advantage in regions. Though proximities can be advantageous, negative aspects on the economic development have also been discussed, leading to the discussion of the so-called proximity paradox. To better understand the effective functioning of these proximities, it must be concretized which institutional actors play a role, and how their collaboration and thus their proximity constellations contribute to the regional development. Based on empirical evidence of Malta, this paper operationalizes the different proximities types and conceptually investigates the different proximities between institutional actors in building a new regional industry, i.e. the gaming industry. The case of the Maltese gaming industry illustrates how regions with limited size and resource-scarcity, thus high proximities between actors (also prevalent in city-states and peripheral regions), can still defy the odds of the liability of smallness and, thus the proximity paradox. Results of this in-depth study shows how collaborative endeavour of proximate institutional actors can contribute to developing an effective entrepreneurial environment and the emergence of a new regional industry.

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Introduction

Small is beautiful and greatly appreciated. (...) We managed to turn our weakest, our liability, to our strongest asset. The fact that we are small is our biggest problem but we manage to focus on that and to turn that into the most positive thing we have. (Interviewee GA04)

Proximities, including geographical proximity, have recently been in the centre of debates on regional economic development (Balland, Boschma, & Frenken, 2015; Boschma, 2005; Grabher, Melchior, Schiemer, Schüßler, & Sydow, 2018; Huber, 2012). Whereas proximities between actors in an industry can accelerate processes, high levels of different types of proximities can also lead to situation of lock-ins, thus revealing the paradoxical role of proximities on economic development (Broekel & Boschma, 2012;

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Callois, 2008). Debates on the support and creation of viable entrepreneurial ecosystems (EE) regarding entrepreneurship as pillar of the competitive advantage in regions have also arisen as an important topic within regional development (Ács, Autio, & Szerb, 2014; Alvedalen & Boschma, 2017; Mason & Brown, 2014; Stam, 2015). Recognising the importance of entrepreneurship on growth, employment and competitiveness for regions, research in this area has also started to focus on the role of interdependences and interrelations of institutional actors (Mason & Brown, 2014; Radinger-Peer, Sedlacek, & Goldstein, 2018), yet as Alvedalen and Boschma (2017) point out, questions on 'what kind of formal and informal institutions matter' and 'how EE get established and evolve' (p. 888) are overlooked.

Taking the entrepreneurial ecosystem of the recently established Maltese gaming industry as an exemplar for small-sized economic regions confronted with issues of the liability of smallness and with the risk of too high levels of proximities hindering economic development, this study systematically analyses the different proximity types between involved actors of the industry and conceptualizes the proximity constellations in the collaborative environment in establishing the new industry. In an economic environment similar to city states and more isolated peripheral regions, proximities become an even more crucial issue when analysing the regional EE. It follows recent research on this topic (Audretsch & Keilbach, 2007; Balland et al., 2015; Ben Letaifa & Rabeau, 2013; Davids & Frenken, 2018; Grilitsch & Nilsson, 2015; Hansen, 2015; Rallet & Torre, 2017; Shearmur, 2015; Sternberg, 2007), but with its focus on the different proximity types between actors, this paper goes beyond mere confirmation of the 'importance of interactions between elements of an entrepreneurial ecosystem' (Alvedalen & Boschma, 2017, p. 887) in a specific region, but concretizes the involved actors and their interactions in developing regional industries. In line with EE research, which emphasizes place-based dynamics and economic development embedded in locations with a clear focus on the role played by regional actors (Motoyama & Knowlton, 2016; O'Connor, Stam, Sussan, & Audretsch, 2018; Spigel, 2015; Stangler & Bell-Masterson, 2015), the focus on the EU small-island state Malta provides a case in which the spatial constellation of the region and its liability of resource-scarcity is particularly interesting. The case of the Maltese gaming industry illustrates how regions with limited size and resource-scarcity, thus high proximities between actors (also prevalent in city-states and peripheral regions throughout Europe), can still defy the odds of the liability of smallness and, thus the proximity paradox, to support regional development.

This paper follows two objectives: first, using the systemic perspective of EE and its different domains, it conceptually contributes to operationalising and specifying the different actors and the proximities constellation between them in collaborating for developing a viable EE as part of a regional development strategy. Second, it provides theoretical understanding of small-scaled economic regions and their liability of smallness, respectively resource-scarcity, yet empirically illustrating how coordinated regional development institutional-support systems, especially in the context of small-scale economies, can contribute to a flourishing regional industry without falling victim to high-level proximities and risks of lock-ins.

The paper first introduces the theoretical framework introducing the EE concept and the role played by different proximity types in the regional development, followed by an overview of the Maltese case. After the qualitative methodological approach, the

main empirical findings on the interrelations between actors and their proximities within the Maltese gaming EE are presented. Finally, the unique constellation of different types of proximities within the small-island community in developing the Maltese EE is discussed.

The entrepreneurial ecosystem in regions

Entrepreneurship activity has been increasingly considered a pillar for the development of regional competitive advantage and for economic development (Ács et al., 2014; Mason & Brown, 2014). Scholars interested in the conditions supporting entrepreneurial activity have focused on the regional contextual conditions, access to resources and interdependence between relevant actors in specific places, within particular geographical contexts. A systemic view of such support conditions have then be developed as part of the literature on entrepreneurial ecosystems (Horváth & Rabetino, 2019; Malecki, 2011; Motoyama & Knowlton, 2016; O'Connor et al., 2018; Radinger-Peer et al., 2018; Stangler & Bell-Masterson, 2015). Looking at the different domains (such as policy and capital) and actors (including institutional actors and support services), scholars analyse the elements which influence, encourage, support or constrain entrepreneurial activities, and subsequently, the development of a competitive advantage of the region. This focus differs from concepts such as regional innovation systems, industrial districts, clusters or innovative milieus (cf. Cooke, 2001; Crevoisier & Jeannerat, 2009) by its clear focus on entrepreneurship as a key driver of growth or employment, rather than a focus on inter-firm networks and relationships. Yet, for examining the contextual conditions for the creation of a new regional industry, this multidimensional and systemic concept provides an appropriate lens (Johnston, Lassalle, & Yamamura, 2016; Stam, 2015). Moreover, EE research explicitly recognizes that entrepreneurship does not occur in isolation but is dependent upon a set of EE-external factors and on sets of relationships within the EE (Spigel, 2015; Stam, 2014, 2015), comparable to the argument presented later on the types of proximities. Analysis of entrepreneurship at the regional or national level presupposes a deeper understanding of a variety of factors ranging from policy and finance, to culture, support, human capital and markets (Isenberg, 2011) available in the geographical area considered.

This relational view of the EE is consistent with its 'ecological' systemic nature (Acs, Stam, Audretsch, & O'Connor, 2017) and calls for a more integrated view of proximities within EE. Special significance can be attached to the role of regional support and regulatory institutions for initialising, developing and maintaining a viable EE, in which entrepreneurs could seize opportunities to create and develop new ventures (Ben Letaifa & Goglio-Primard, 2016; Radinger-Peer et al., 2018). The topic of collaboration between institutional actors supporting the development of favourable conditions for entrepreneurs within a local entrepreneurial ecosystem is worthy of investigation (Erina, Shatrevich, & Gaile-Sarkane, 2017; Motoyama & Knowlton, 2016; Spigel & Harrison, 2018; Stam, 2014). In the specific case of Malta, such analysis is particularly interesting as the small-island state with its multiple resource-scarcity, geographic isolation, and yet strong embeddedness within the European Union is an extreme case of regional economic environment. Studying the proximities in such a spatial context can give valuable insights into the complexity of interconnected actors within economic regions and inform researchers and policy-makers alike about the mechanism of developing favourable EE for new industries.

Proximities of actors in regional development

The idea of different types of proximities (Boschma, 2005; Torre & Rallet, 2005) beyond geographical proximity has been widely adopted in research on regional development and economic geography (Davids & Frenken, 2018; Grabher et al., 2018; Lazzeretti & Capone, 2016; Malmberg & Maskell, 2002; Shearmur, 2015). These proximities encompass a range of localized capabilities, including firm networks, institutions or common values (Doloreux & Parto, 2005). The exchange with extra-organisational actors is crucial for knowledge production and transfer as well as learning processes (Bathelt, Malmberg, & Maskell, 2004; Grillitsch & Nilsson, 2015; Sonn & Storper, 2008). Looking beyond inter-firm collaborations, the role of institutional actors is considered crucial to the development of favourable conditions for innovative entrepreneurship and economic development (Doloreux & Parto, 2005; Welter & Smallbone, 2011).

Boschma's proximities types are useful in analysing actors' dynamics within specific locations, as they provide the context for regional development and innovation: (1) *cognitive proximity*, i.e. use of similar technological language and procedures, facilitates interaction and knowledge transfer between actors (Aguilera, Lethiais, & Rallet, 2012; Boschma, 2005; Huber, 2012); (2) *organisational proximity*, understood as relations and shared organisational arrangements within or between organisations (Boschma, 2005), facilitates trust-building and the reduction of transaction costs, but also allows coordination and control (Dyer & Chu, 2003); (3) *social proximity*, encompassing social relations, networking and collaborations beyond sole co-location (Grabher et al., 2018; Shearmur, 2015; Shearmur & Doloreux, 2016), facilitates knowledge transfer, leading to higher innovation performance (Huggins, Johnston, & Thompson, 2012); (4) *institutional proximity*, i.e. setting institutional contexts and rules under which actors collaborate and learn (Balland et al., 2015; Doloreux & Parto, 2005; Freel, 2003; Ponds, Van Oort, & Frenken, 2007; Welter & Smallbone, 2011), functions as 'glue' for collective actions and consequently for knowledge networks (Boschma, 2005); and finally (5) *geographical proximity*, despite critiques regarding benefits of co-locations (Balland et al., 2015; Ben Letaifa & Rabeau, 2013; Grillitsch & Nilsson, 2015; Shearmur & Doloreux, 2016), its paradoxical role still contributes to regional innovations¹ (Broekel & Boschma, 2012; Callois, 2008; Lazzeretti & Capone, 2016; Parjanen & Hyypiä, 2018).

Research has also discussed the opposite effect of proximity when it becomes 'harmful' (Boschma, 2005, p. 66) for the overall system, leading to lock-ins (Ben Letaifa & Rabeau, 2013; Broekel & Boschma, 2012; Callois, 2008). For example, to avoid lock-ins regarding cognitive proximity, knowledge diversity is still needed (Audretsch & Keilbach, 2007; Martin, Sunley, Gardiner, & Tyler, 2016; Sternberg, 2007). Too much organisational proximity leads to dependencies where knowledge transfer is negatively impacted (Balland et al., 2015; Ben Letaifa & Rabeau, 2013; Boschma, 2005; Huber, 2012; Johnston & Huggins, 2016), same for too strong social proximity (Uzzi, 1996). Regarding institutional proximity, it can limit access to knowledge networks for outsiders, resulting in inertia (Boschma & Martin, 2010), thus calling for a degree of openness and flexibility (Boschma, 2005; Laursen & Salter, 2014). Such double-edged effects of proximities have been coined 'proximity paradox' (Broekel & Boschma, 2012; Huber, 2012; Parjanen & Hyypiä, 2018).

Hansen (2015) further discusses overlaps and interrelatedness between proximity types, whenever a form of proximity facilitates another. Geographical proximity has been especially indicated as central as neighbourhood effects enable and impact institutional, social and cultural settings (Bathelt et al., 2004; Hansen, 2015; Malmberg & Maskell, 2002). Specifically, in the case of small-sized communities and isolated locations, such as Malta, strong social proximity can compensate for the lacking local buzz and geographic proximity to external actors (Shearmur, 2015). Recent research highlights such effects between institutional and social proximity on innovation (Ben Letaifa & Rabeau, 2013; Davids & Frenken, 2018; Hansen, 2015; Huber, 2012). Empirically analysing these effects thus appears crucial for understanding the dynamics of institutional actors in developing a favourable EE in Malta.

The economic case of Malta

Malta (316 km²) with a total population of only 431,000 (National Statistics Office, 2018) resembles other subnational city-states or regions with limited resources and actors. Malta presents the rare characteristic of having undergone enormous structural changes within a short period. From a UK colony mostly built on the military, agriculture and construction industry, Malta restructured to manufacturing after its independence in 1964, then further developed tourism in the 1970s and turned to the finance industry in the 1990s; following the path of many other small states in the 2000, it joined the EU market in 2004. This structural change was followed by the conjoint development of the (online) gaming industry, encompassing iGaming (online gambling) and the digital gaming sector, as a key industry representing up to 12% of the Maltese GDP (Ernst & Young, 2014). Gaming industry within ICT is a branch requiring high flexibility and velocity in its development, where efficient coordination is crucial for the actors involved.

Although Malta is an ideal location for seizing entrepreneurial opportunity, as access to the large EU market is given, the main issue is the lack of access to service providers based normally outside Malta, and the lack of domestic investment capital. Therefore, support incentives provided by Maltese institutional actors and networks are crucial in establishing enterprises. The favourable conditions for start-ups in the Maltese EE encompass tax incentives, low taxation on online gaming turnover and low costs of licences (giving access to the EU market) compared to similar licences in other EU countries. There are further investment incentives, such as refunds on corporate tax up to six-sevenths of the amount of tax paid upon distribution of dividends. From an institutional regional development perspective, Malta clearly provides an interesting case for studying the EE development.

Small-island states are marked by elements pertaining to the liability of smallness, including vulnerability to external shocks, high reliance on trade, and lack of internal resources as human capital, financial capital and market size (Easterly & Kraay, 2000; Katzenstein, 2003; Read, 2004). However, they have also been observed to build on their own specific resources to overcome these 'structural handicaps' and use smallness and proximity between actors to their competitive advantage (Baldacchino, 2002), notwithstanding the intrinsic risks caused by high proximity (Broekel & Boschma, 2012; Huber, 2012). Malta has succeeded in turning its size into an advantage, overcoming challenges faced

by post-colonial structural changes and effectively developing a viable entrepreneurial ecosystem for the emergence of the online gaming industry. The main assets of institutional adaptability and a common mindset in such small states (Baldacchino, 2015; Read, 2004) hint at the importance of different types of proximities as well as the close coordination of institutional actors in accessing suitable resources and developing its EE.

Methodological approach

The research is based on a qualitative case study (Eisenhardt & Graebner, 2007), which provides an empirical exemplar of the emergence of a new industry in a context of smallness. The case study design allows for an in-depth exploration of the emergence of new industries through expert interviews with key policy-makers and institutional actors involved in the creation and the management of the new EE. Data collected are analysed within their different spatial, social, cognitive, institutional and organisational contexts, to enable a comprehensive contextual understanding of the dynamics of the development of a favourable EE within the small-island state (Bizzi & Langley, 2012; Leca & Naccache, 2006). We could, therefore, capture the economic and institutional environment of Malta with its scale blending, in which the role of different types of proximities on entrepreneurial activities can be analysed. Theorisation (rather than generalisation) can then be achieved in such case study design, through the process of qualitative data analysis, in relation to actors and contexts (Welch, Piekkari, Plakoyiannaki, & Paavilainen-Mäntymäki, 2011).

To ensure the quality of data collected, expert interviews were conducted with key institutional actors involved in the development of the Maltese gaming industry, which encompasses online gaming (online casinos) and digital gaming (e.g. app-based games). During the preparation of the fieldwork, these key actors were selected given their leading positions as policy-makers or institutional actors from all the different institutions involved in the relevant EE. Experts interviewed were senior managers of all key governmental agencies (GA) and the regulators of the sector (Malta Enterprise, Malta Gaming Agency, Malta Information Technology Agency, Malta Communications Authority), and leaders from leading support entrepreneurial networks (EN) (SiliconValletta, TAKEOFF Incubator, University of Malta, Gaming Malta, Malta Innovation Hub, as displayed in Figure 1). As senior managers, the participants were directly involved in policy and decision-making regarding the development of the gaming industry and therefore provided first-hand expert perspective on the emergence of the new industry and of the development of the EE. Accessing senior managers was crucial in understanding the actors' perspective in a resource-scarce island, perspective that could not be fully captured without such interviews. Given the size of the island, reaching 10 respondents definitely exhausted the number of actors in decision-making position involved. By accessing all key actors in the field, we were able to collect unique empirical data on the emergence of a new industry, which constitute a very valuable empirical contribution to research on institutional support to economic development. The 70- to 90-minutes in-depth semi-structured interviews were also followed by informal conversations, in which additional insight could be gathered too (Crozier & Friedberg, 1977). However, importantly, to guarantee anonymity of the respondents, participants will be referred to as GAXX or ENXX in the next sections of the paper.



Figure 1. Entrepreneurial Ecosystem of the Gaming Industry in Malta (based on Isenberg, 2011).

To complement data collected during the interviews, we also analysed industry and national institutions' reports, including official communications by the different government agencies or external reports (e.g. from Ernst & Young). Each interviewee was also asked to draw (and comment on) a network map of their formal and informal relations with other EE actors. Those network maps were then compared and analysed in relation to the interview data, revealing interesting dynamics between actors and the different spatial, social, institutional, cognitive and organisation contexts in the emergent EE. Importantly, in addition to a description of the account of each participant, we conducted a thematic analysis of the interviews, in which respondents' perspective were critically analysed and led to theme-development (Welch et al., 2011). Interviews were first analysed in relation to starting themes derived from the research questions on how EE are established and evolve (Leitch, Hill, & Harrison, 2010). Researchers also documented post-interview observations, and interviews and notes were transcribed from recordings and from full handwritten transcripts after (Crozier & Friedberg, 1977). Both researchers independently coded the data (Miles & Huberman, 1994) and included emerging themes (such as the interrelationship of types of proximities) in the analysis. The analysis provided is stemming from the critical analysis of data since no participants explicitly mentioned the themes presented here. The interrelation of types of proximity is the outcome of the process of theorisation from the case and from the data collected (Welch et al., 2011). The next two sections first provide the overview of the actors and contextual dynamics in the emergent industry, presenting the establishment of the EE and the presentation of the institutional actors involved.

The entrepreneurial ecosystem of the gaming industry in Malta

Ministries and governmental agencies prioritize the development of the gaming industry by actively designing favourable regulatory frameworks and conditions, and encouraging the creation of new ventures (elements of EE, summarized in Figure 1). Tax incentives apply to any investment in Malta, but in combination with the favourable regulatory framework for iGaming, Malta has been successful in attracting investors and entrepreneurs in this specific export-oriented gaming industry serving the EU market. In addition to this support, several agencies for ICT and tech start-up in Malta (including online gaming) constitute a network of support institutions in this particular EE (Figure 2).

The importance of ICT in Malta is highlighted by most political and economic actors (including Ernst & Young, KMPG, Microsoft, Oracle) and evidenced by the creation of different governmental agencies specialized in supporting ICT, gaming and tech start-ups (MITA, Malta Communication Authority (MCA), Gaming Malta, etc.). To promote entrepreneurship in the country, these institutional actors (GA) encourage the

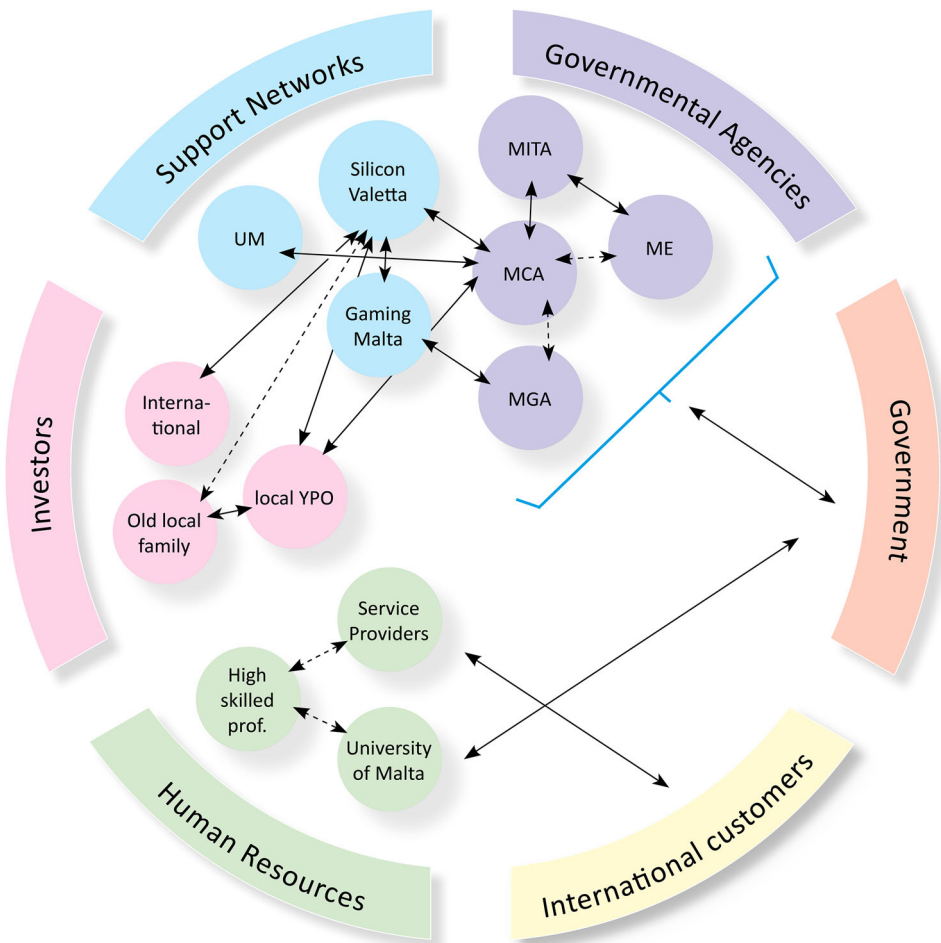


Figure 2. Actors Network Map in the Maltese Gaming Industry.

development of a knowledge network and an EE by actively involving further actors, such as non-government entrepreneurial networks (EN) as the University of Malta and its incubator. Collaboration between these actors is key to success and is facilitated by the high proximities in Malta (geographical, institutional, social and cognitive). Through the closed-knit network between actors in the EE entrepreneurs can access different resources (e.g. information, local skilled labour or expatriates) directly. As Malta faces many challenges related to the local conditions, such as size of the market, lacks of entrepreneurial culture (prevalent fear of failure), human resources, local investors and mentoring/inspiring examples, which are all key elements of a vibrant ecosystem (Isenberg, 2011; Stam, 2015), the strategic objective for policy-makers is to design an EE that would be favourable for entrepreneurial activity; as an executive from a government agency puts it:

What we are doing at this stage is to plant our own seeds and eventually something will grow up from them. And we understand that even the ecosystem itself, if it is going to grow; it needs to grow first from a number of start-ups here. (GA06)

Institutional actors in the Maltese gaming industry

Several institutional and support actors are involved and differently networked in the gaming industry in Malta. [Figure 2](#) gives an overview of the findings regarding the relationships between the institutional actors and further actors mentioned in interviews and on network maps. It, therefore, provides an overview of the Maltese institutional system, yet, considering that the relations and interactions between the different actors is partly ad hoc and emergent (such as the relations with investors) and partly consciously designed (such as the coordination between MGA and MCA). The investors represent three different groups: local families involved in construction and tourism, young generation of local investors, and international investors (as prime founders of the industry in Malta). To develop the local EE in Malta, support networks like SiliconValletta or the MCA encourage reluctant and risk-adverse local investors (family businesses who built their fortune in conservative sectors and are not yet well networked with the new gaming industry) and the younger generation of local investors (YPO) to invest more in technology firms. The engagement through networking is taking place at various events such as the Zest conference, co-organized by institutional actors. The role of SiliconValletta and MCA is crucial in involving more actors to develop a stronger EE for collaboration and knowledge sharing for the gaming industry. MCA and SiliconValletta envisage attracting ‘foreign strong players’ (GA06) and international role models along with local potential entrepreneurs and investors to develop an entrepreneurial mindset in Malta. Another important actor with a crucial role in the gaming industry is the regulator – Malta Gaming Authority (MGA). As a regulator, they interact with other authorities and industry-specific agencies, such as Gaming Malta, yet, given their official position in delivering licences, they have fewer interactions with support networks. More central in this context are SiliconValletta (in contact with investors, Gaming Malta and the MCA) or the MCA (in contact with SiliconValletta, University-based incubator and other government agencies: MGA, Malta Enterprise (ME), Malta Information Technology Agency (MITA)). These actors play a central role in the networks in supporting collaboration and market access in Malta, whereas the university’s business incubator TAKEOFF is involved in knowledge transfer practices.

This actors' network derived from the findings shows the prominence of social and personal connections among institutional actors within the Maltese institutional system involved in the emergence of the new gaming industry. They stand for overlapping proximities between actors and institutions which are crucial for understanding the functioning of the Maltese gaming industry in practice.

The different proximity types in Malta

It emerged from the analysis that proximities matters for the actors of the emergent gaming industry in Malta. The role played by each of the proximity types is revealed below. Although presented as separate theoretical constructs, it appears that proximities overlap and influence each other's. We therefore start with the most visible geographical proximity, which provides the conditions for other proximities to interrelate and overlap, before presenting a systematic theorisation of their interrelations.

Geographical proximity

The most obvious and fundamental aspect of Malta is the geographical proximity. The small-island state is characterized not only by resource-scarcity and trade-dependency, but more importantly by the limited domestic market, which is inherently connected to the limited human resources. All institutional actors have mentioned this as the prime concern for economic development. Whereas 'proximity is not really a problem' (EN02), the fact that 'at the end of the day, we're 400,000 in Malta' (GA01) emphasizes the uniqueness of Malta. It directly affects the cognitive orientations and society, and thus, economic activities.

The dependency on international markets and external capitals is apparent and a crucial factor for encouraging entrepreneurship in Malta. Although a generally difficult relation with foreigners was mentioned, all institutional actors emphasized the importance of friendliness towards international professionals and business investors, and also showed openness to tourism as competitive sector. This dependency actually also contributes to the geographical outreach of a highly proximate social network of economic actors to distant markets, especially within the EU. Interestingly, such explorations into distant new markets appear to be carried out collectively; because the human resources on knowledge transfers are limited, information quickly spreads through Malta's proximate social network once a pioneer has found a new niche. Particularly within the ICT and gaming industry, European hub cities and regions like Estonia were mentioned as part of their international networks. Closely knit communities within the industry, thus, contributes to overcoming geographical distances and changing the perception of spatial distances.

Institutional proximity

Entrepreneurial networks exemplified cases of strong institutional proximity when elucidating on 'building relationships outside and bringing [them] to island' (EN02) through educational institutions. Making and developing personal ties overseas through institutional exchanges are supported by governmental agencies and incubators.

Institutional proximity is one of the strengths the Maltese EE builds on. As a governmental agency puts it:

Advantage we have: we are close to all institutions ... [This] facilitates meetings that make us strong, we can pick up the phone and talk to senior people in authorities. If I want to meet the Prime Minister, in three days I can get an appointment. (GA03)

Especially in the political environment, institutional proximity realized by personal networks appears to impact the economic activities strongly. Actors talk about the interwoven impacts of various types: 'It's a very small island so everything, everything impacts everything' (EN03), mentioning the impact of political changes regarding funding for projects. Even knowing which party one has voted is part of the island community (EN02).

Crucially, the strong institutional proximity is caused by the actual approximation of the micro- and macro-levels in the institutional structure of the small-island state. There is a strong awareness of both seeing an advantage in this 'crushed' structure (GA04), and needing to work closely together. Actors who are normally positioned in more distinct levels collaborate on a regular day-to-day basis as there are only a 'limited number of institutions' (GA02) in the Maltese ecosystem, making the role of social networks even stronger.

Social proximity

As already implied by the previous proximities and their interwoven interconnections, social proximity is extraordinarily high in Malta. There is a natural overlap in the social and personal networks of business and institutional networks (GA05). This is due to the limited overall population size, but more crucially by the smart institutional structure and small market. The phenomenon whereby '[y]ou always know somebody who knows somebody who knows him' (GA03) was mentioned by all experts at least once, if not several times, during the interviews to illustrate the closely-knit society in Malta. Such social but also personal networks in the form of family or alumni associations were mentioned as being prominently important when setting up businesses. In fact, one of the EN experts explained first business interactions as follows:

So first of all, we can talk about context. If you were Maltese and I was meeting you for the first time, the first questions would be 'Who are your parents? Which school did you go to? Where do you live?' and eventually we would see that there is some form of relationship. Because I would know your father's sister's wife's brother [or] something, ok? So I would know you. Ok? That's how it starts. The impact of that is that there is a lot of caution. (EN02)

Such high social proximity has a crucial impact on the business culture as there is 'lots of social networking in Malta. Everybody knows everybody and everybody's business' (GA02). Interests between different actors in these socially proximate entrepreneurial networks are taken into account and, rather than promoting nepotism, as it may appear at first glance, social proximity functions as a control mechanism against such malfunctioning in the EE.

Cognitive proximity

Deriving from these above proximities, there is also a shared cognitive proximity in Maltese society and its economic community. In other terms, actors of the EE have a shared

understanding of the contextual conditions of resource-scarcity and agree on the need to overcome the liability of smallness. Experts describe the impact of geographical proximity on Maltese cognition as an ‘island mindset careful[ly] managing resources’ (GA05).

Given the historical background of being conquered by different cultures and its geographical isolation, there is a common awareness for the necessity to overcome distances and to see opportunities in internationalisation activities. The Maltese EE is thus characterized by a consciousness of its small size but simultaneously pride in having a progressive attitude towards internationalisation. The overall EE with its different actors is strongly focused on (trying to) establish the favourable conditions for an effective and efficient processes of opportunity recognition and network creation for local ventures targeting the large EU market to emerge. This consciousness is visible among the different actors involved in the new emergent gaming industry. They appear to be pulling together on one strand to create a favourable economic environment for the development of new industries.

We prepare students from a young age [for] the international world. We cannot think within the box. We need to be innovative. If there had not been innovation in Malta in the past, we would die. Innovation, continuous innovation keeps our link to the work. We are indoctrinated from the early stages of childhood. Our incentives lead to innovative projects and even children are taught to be creative. (GA02)

Many entrepreneurs and institutional actors in ICT have in fact chosen to be educated overseas, yet returned to Malta for involvement in building the gaming industry. Maltese professionals abroad are regularly brought back for educational activities and also remain in entrepreneurial networks. This growing phenomenon of circular migration is a particular cognitive feature of the ‘new generation’ of Maltese (GA06), and contributes to preventing cognitive lock-in on the small-island state.

At the same time, data analysis shows that there is another side to this ‘island mindset’, namely, a low tolerance for business failure, which is derived also from the closely-knit community and the associated importance placed on social prestige. Consequently, there is a reliance on safe and traditional investment from local investors. Such cautiousness constrains the development of the emergent industry that institutional actors are trying to support. These ‘traditional old family businesses’ (EN02) had success in the post-WWII industries of construction, tourism and shipbuilding, and are reluctant to engage in riskier investments, such as ICT. Similarly, among EE institutional actors themselves, support agencies like Malta Enterprise are perceived by others to operate in ‘traditional company-oriented frame of mind’ (GA06) ‘based on bricks and mortar’ (GA05), and appear to neglect the gaming industry. However, overall, there is evidence of cognitive proximity and shared mindset among the community of institutional actors, who also aim to educate future generations through programmes aimed at creating an ‘entrepreneurial mindset among the next generation of Maltese’ (GA03).

Organisational proximity

Organisational proximity plays an ambivalent role in relation to other types of proximity, especially in regards to social proximity. In Malta, organisational proximity is encouraged

by the geographical and institutional proximity. However, despite such reinforcing mechanism, there is an observed lack of organisational synergies between the different decision-making levels in each of the organisation and between them. For instance, where different industry-specific actors are attempting to foster new mindsets for innovation and entrepreneurship (e.g. MCA, Malta Innovation Hub, TakeOff Incubator), their efforts are negatively affected by the lack of proximity at the organisational level as expressed below:

My relationship here with these guys [at same hierarchical level] is very good. Excellent, very good. I mean excellent. But ultimately, the decisions are taken here between this guy and this guy [at the highest levels]. So he has to go up and I have to go up. So I can agree with you, but then if our bosses do not agree, we still remain good friends, we have good relationship, but you know. (GA05)

Such parallel relationships between two organisations, which involve personal and favourable business relations between actors at one level and further actors in higher positions, but without the necessary concordance of relations within each organisation, have also been described in the case of an entrepreneurial network communicating with a government agency (EN03), whereby communication and cooperation was hindered by lack of organisation flexibility between hierarchical levels and units. Organisational arrangements can thus limit collaboration and knowledge transfer.

Overcoming the liability of smallness

Small-island states, such as Malta, along with city-states and other autonomous small-scale regions, are characterized primarily by their limited geographical size and accompanying limitation of multiple resource-scarcities. Consequently, local conditions and the limited domestic market constrain entrepreneurial opportunities. Moreover, actors in the local EE need to cope with the risks for lock-ins due to high proximities. The context of extreme geographical proximity suggests a limited economic diversification and difficulties for the emergence of innovative and highly entrepreneurial industries. However, Maltese institutional actors have managed to overcome this liability of size and its proximity paradox to support the development of an efficient and viable EE, thus turning size to an advantage through strong collaborative action and institutional adaptability.

To better grasp this unique phenomenon of the Maltese EE, different types of proximities have been analysed. By considering the effect of each type of proximity in facilitating or hindering the collaboration of institutional actors in supporting the development of a local EE in a small-island state, the study provides an understanding of actors' dynamics in the context of small-scale regions and small-sized communities. By examining the role played by types of proximities in the collaboration of institutional actors, this study provides insights into the conditions for the development of a supportive EE for entrepreneurs located in the small-island state.

In a geographically limited environment, the size of the population evidently plays a prominent role, limiting access to different resources relevant to entrepreneurs (including; finance, international market reach, knowledge exchange outside of the island). Because of high proximities between institutional actors supporting the emergence of a new industry in context of liability of smallness, there is a necessity to establish networks for relevant actors and entrepreneurs both within and beyond the local EE. In this sense, the

findings reveal the importance of overlapping and substitution effects between the different types of proximity in influencing collaboration between the supporting institutional actors involved, but also the function of proximities in facilitating such collaborations. Our proposed framework focuses on the interrelation of different types of proximity in the context of small states, characterized by liability of smallness and high level of proximity (Figure 3). It thus provides an insightful conceptual lens through which analysing the interaction of different institutional actors involved in the establishment and management of new EE and emergent industries. These industries are crucial for the economic development of such resource-limited and export-dependent communities (Baldacchino, 2015; Read, 2004). Therefore, this conceptual lens also provides avenues to consider for policy-makers, to establish synergies and effective collaborations between different actors, to encourage the development of favourable EE.

Our framework presents the proximities in terms of overlaps and complementary effects. Geographical proximity enables the formation of closely-knit social networks that are crucial for adaptive and collaborative behaviour between institutional actors, and turns these into a source of competitive advantage for Malta and its developing EE (Easterly & Kraay, 2000), thus partly overcoming the liability of smallness. Because of high social proximity, institutional actors are more reactive and therefore (attempt to) create favourable conditions to attract aspiring entrepreneurs to start up their new venture in Malta (as a first step). The second step is to develop an entrepreneurial mindset (a key component of an efficient EE) within the local population and consequently support the development of a new industry led by local entrepreneurs by capitalising on the different proximities, including cognitive proximity. The importance of social networks and personal connections in enabling such institutional collaboration is enhanced within this specific geographical constellation, and also complements non-spatial forms of proximities (Boschma, 2005; Grabher, 2002; Hansen, 2015; Huber, 2012; Mattes, 2012). Overall, by articulating and managing different types of proximity, institutional actors can (and could) strengthen the different elements of the emergent EE, starting locally with coordination to provide suitable start-up conditions and

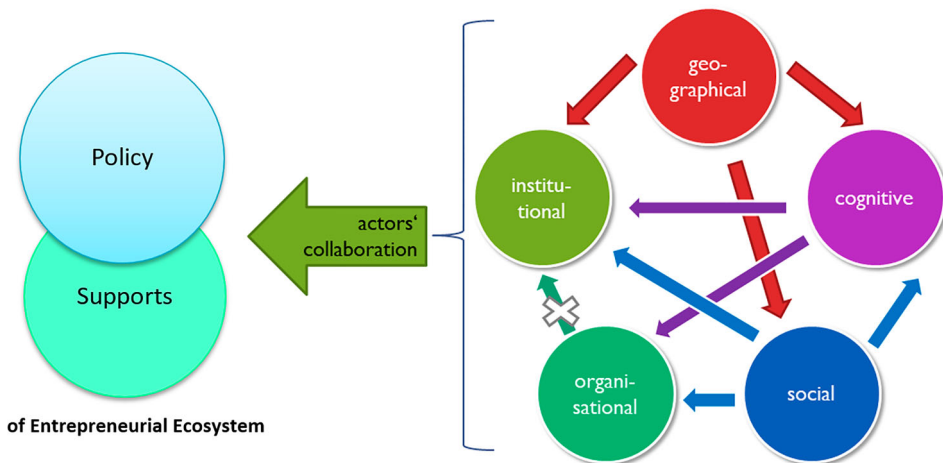


Figure 3. Role of Proximities for Collaboration of Institutional Actors in small state contexts.

attracting highly skilled workforce (both through coordinated regulatory measures and incentives), but also going further by seeking access to different international networks, for accessing venture capital beyond the island, accessing the EU market and establishing the reputation of the local EE (key elements of an effective EE, cf. [Figure 1](#)).

Moreover, strong institutional proximity (that enable such coordination between actors) is caused by the actual approximation of micro- and macro-levels to unique small-state contexts (conducive of geographical proximity) and its closely-knit social networks (social proximity), as [Figure 3](#) shows. This overlap between institutional, geographical and social proximity finds support in other studies ([Balland et al., 2015](#); [Freel, 2003](#); [Ponds et al., 2007](#)) and helps explaining how the overlap between different types of proximity enables institutional actors to collaborate and adapt their action to better support the development of an efficient and viable EE.

This therefore suggests that institutional proximity is a central point. It acts as a ‘glue’ for the collective action of institutional actors, in the context of liability of smallness and resource-scarcity ([Baldacchino, 2015](#); [Shearmur & Doloreux, 2016](#)). As expert interviewees pointed out, there is a natural overlap between the social-personal networks and all other business and institutional networks, which is facilitated by geographical and institutional proximities ([Hansen, 2015](#)) and, to some extent, vice versa.

Another crucial impact of the small-sized community, given its high social proximity, is on cognitive proximity, i.e. on the entrepreneurial and investment mindset in Malta. This is crucial in ensuring the establishment and sustainability of the EE in the country, and in ensuring that the Maltese population embraces entrepreneurship. Cognitive proximity is a crucial prerequisite for policy-makers to encourage and develop an entrepreneurial mindset in the country, leading to further entrepreneurial activities ([Aguilera et al., 2012](#); [Baldacchino, 2015](#); [Huber, 2012](#)). Interestingly, the islander’s mindset in fact, focuses on the open-mindedness and affinity of overseas influences, including the temporary educational and professional migration abroad to other EU countries. Such mindsets then contribute to a type of circular migration, which retains the overall entrepreneurial ecosystem dynamic by also bringing skills from overseas experiences. However, risk aversion and fear of failure are high in closely-knit communities such as Malta, and these highlight the double-edged role of the intersections between social and cognitive proximities in developing a new EE.

Finally, the empirical results draw attention to the ambivalent role of organisational proximity in relation to other types of proximity among institutional actors of the EE, especially with regard to institutional proximity. Encouraged by geographical and institutional proximity in Malta, organisational proximity can explain the forms of collaboration within the EE as found in the literature ([Ben Letaifa & Goglio-Primard, 2016](#); [Broekel & Boschma, 2012](#); [Huber, 2012](#); [Lagendijk & Lorentzen, 2007](#)). However, in the Maltese case, organisational proximity at higher hierarchical levels can hinder the positive impact of social and cognitive proximity for actors at lower levels in terms of collaboration, and therefore negatively affects institutional proximity in some instances (see [Figure 3](#)).

Conclusions

This paper presents novel empirical evidence on the importance of the different proximity types to the collaboration of institutional actors in a small island context, and on their

influence on the establishment of a new EE. An interesting finding pertains to the negative role of organisational proximity between actors on their institutional proximity, subsequently hindering their collaboration within the EE. The empirical analysis reveals the pivotal role that social proximity plays in the given condition of geographical proximity in facilitating other proximity types. By identifying the connections between key institutional actors and different elements affecting the gaming EE in Malta (i.e. markets, resource, support, structure, culture, finance, policy), the paper highlights the interwoven proximities in their spatial constellation. Small-sized communities such as that of Malta give hints to the functioning of sub-national regions, such as city-regions, city-states or other regions as old industrial areas, providing avenues for policy-makers to reflect on their coordinated actions in contexts of high degree of proximities and liability of smallness. Such locations are characterized by the limited size of their economy and by the high degree of proximity between the different actors often resulting in situation of lock-ins (Malmberg & Maskell, 2002; Martin & Sunley, 2006).

Conceptually, the research conceptualizes the interrelated roles of proximities on institutional actors' collaboration within nascent entrepreneurial ecosystem. It thus contributes to closing a gap in research regarding which institutions matter in developing a new regional industry and moreover how such an EE establishes in specific regions (Alvedalen & Boschma, 2017). The systematic identification of institutional actors and entrepreneurial networks, the analysis of their interaction, as well as the operationalisation of the interrelated proximities amongst them within the domains of the EE provided an overall framework, contributing to debates in regional study research (Hansen, 2015; Huber, 2012). Focusing on actors within EE, it constitutes a viable methodological approach to be used for further research on actor-based mechanisms of regional development.

Limitation of the study may appear to be the unique case of the small-island state of Malta. The limited number of respondents, which could be regarded as limitation actually encompasses all relevant actors of the EE. The field was theoretically and empirically saturated (no further institutional actors existent). Similar spatial constellation of scale-blending in city-states and other regions, in which personal and social networks are accessed through high geographical proximity – is not necessarily too singular to prevent theorisation (Welch et al., 2011). It allows formulation of policy implications for other small island contexts. In small-sized island states, social proximities can be generally understood as the key to overcoming the liability of smallness and to preventing other proximities, in particular geographical proximity, from inhibiting economic activities. The case illustrates how well coordinated regional development institutional-support systems, especially in the context of small-scale communities, can contribute to a flourishing entrepreneurial environment without falling victim to resource-scarcity and the high risk of lock-ins. This paper thus has strong practical implications for practitioners and policy-makers in regional development. By systematically analysing the domains of EE but also searching for im-/balances in the existent proximities within the industry, better adapted policies can be developed by local institutional actors.

To capture an even more comprehensive picture of the EE in small-island states, taking into account its spatial constellation and its transferability to other sub-national regional units, further research should entail comparison of other small-state and similar entrepreneurial ecosystems. This could be conducted by following the prevalent interconnections

of the Maltese EE to external actors, also located in remote regions of the EU (Estonia). In line with previous research on proximities, our research shows the paradoxical role played by different proximity types on regional development, focussing on institutional actors and the different domains of the EE, including the regulatory environment, support institutions or availability of capital (Radinger-Peer et al., 2018; Stam, 2015). Further, it highlights the necessity of collaboration between different institutional actors to overcome liabilities and resource-scarcities using different types of proximities. This is particularly insightful for policy-makers looking at developing new EE as a pillar of economic development, supporting the emergence of new industries in contexts characterized by high proximities, such as city states, or peripheral regions.

Note

1. Geographical proximity is neither a necessary nor a sufficient condition for learning (and hence innovation) to occur. Although acknowledging that innovation is created in spatial agglomerations, co-location are thought not to be sufficient but rather complementary to others forms of proximity (Bathelt et al., 2004; Boschma, 2005; Shearmur & Doloreux, 2016).

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