Citizen Entrepreneurship: Towards Involvement, Inclusion and Integration of Citizens in Entrepreneurial Europe

Jay Mitra (University of Essex, UK)
Ursula Weisenfeld (Leuphana University of Lüneburg, Germany)
Agnieszka Kurczewska (University of Lodz, Poland)
Mariusz E. Sokolowicz (University of Lodz, Poland)
Silke Tegtmeier (University of Southern Denmark, Denmark)
Su-Hyun Berg (Business consultant, Germany)

Abstract
This paper aims to present a rationale for the engagement of citizens with the process and practice of entrepreneurship to enable a better alignment of entrepreneurial initiatives with social and community priorities and to address issues of global import of local interest in uncertain environments. To this end we posit that engaging citizens in the entrepreneurial process facilitates agency at the collective level of people with their rights and responsibilities to identify, participate in, and govern with existing institutions meaningful economic and social activity in defined spatial environments. We use the concept of the ‘commons’ and collective efficacy in different places to develop a rationale and a model of CE (Citizen Entrepreneurship). We argue that CE is able to address local problems arising from wide-spread phenomena such as inequality, social polarization, populism, migration, and the gradual erosion of democratic institutions. We analyse existing cases of CE and opportunities for CE in three different European cities in order to produce a rich picture of possibilities, constraints and measures that are conducive to CE.
Introduction

Are citizens important? In any democratic society, this question may sound superfluous. We are likely to take for granted the duties and responsibilities of the citizen with a default assumption that carrying a passport or voting at an election defines citizenship. However, citizenship understood merely as a mechanism of governance or as an instrument of democracy may be insufficient for determining its meaning or scope. The nurturing and sustenance of democracy may depend on the knowledge, skills, civic intelligence and moral integrity of all its citizens, as Vincent Ostrom (1997) argued. Add to that the idea of self-governance and the collective efficacy of ‘the commons’ representing citizenship in action, as developed by Eleanor Ostrom (2005, 2014), and we begin to consider a more nuanced, value-driven and potentially efficacious appreciation of citizenship. In our fractured social and economic environments, made worse by the growing institutional sclerosis over issues that affect our lives so fundamentally, surface symptoms, systemic limits and structural disconnects straddle questions, inter-alia, of ecology, unequal wealth creation access and accumulation, and access to finance (Sharmer amd Kaufer, 2013). Furthermore, as Tims (2015) noticed, such processes as the growing strength of private capital in relation to public one (resulting in privatisation of public spaces and appropriation of commons), ineffective legal regulations, declining faith in the mechanisms of traditional democracy, or “marketization” of interpersonal relations and commercialisation of public life, cause a depletion of urban commons noticeably. The disconnects and the social imbalance could perhaps be reset by self-governance based on a coherent set of beliefs, actions drawn from the wellsprings of collective civic competence and engagement (Mitra, 2019).

One way of fostering that civic competence and a better sense of self-governance is through entrepreneurship, but not as entrepreneurship as usual, as in a relentless tide of new venture creation and innovation. If we wish to upgrade entrepreneurship to something more than the prevalence rate of start-ups by the few, and embed it in a wider pool of social and economic activities we might need to overcome the constraints of orthodoxy. We need to stretch our critical appreciation of entrepreneurship to a form of engagement that combines the innovative strength of producers and users with engagement in the creative dynamics of the people as citizens. Our canon of knowledge on entrepreneurship fails to respect the collective wisdom of citizens who are also producers, users, parents, partners, children, and crucially, the collective set
of individuals. What is produced, marketed and sold in the name of entrepreneurship is dependent on the absorption of goods, services, ideas and information by all citizens. So how could we create a new culture of Citizen Entrepreneurship (CE)?

CE means the involvement of citizens, as users, producers and collective governance gatekeepers, in the private, social, and public entrepreneurship process (Mitra et al, 2019). CE promotes the idea of pro-active involvement of citizens, in the private, social, and public forms of new venture creation and growth made possible by productive social and economic projects. CE offers new ways of using technology, harnessing a common pool of financial, social and human capital, to address people’s aspirations and needs. It could act as a meaningful antidote to decreasing levels of trust in institutions, businesses and governance processes in most countries around the world, enabling a realistic form of Aristotelian ‘eunoia’ or goodwill, ‘arete’ or virtuousness and objective transparency, and critical judgment or ‘phronesis’, essential for effective governance (Wynn, 2017).

Crucially, CE does not mean being evangelical about all citizens developing enterprise formation capabilities. Rather, it is about greater awareness, meaningful contact with entrepreneurial activities in society and engagement with entrepreneurs about choices for skills development and labour supply, valorization of financial and human resources, implications for the environment and local problem solving. Citizen engagement in entrepreneurial initiatives often find best expression in smart city projects such as the one in Copenhagen, Denmark regarded as the “smartest city” by the EasyPark Group (Copenhagen Capacity, 2018), in socially constructed programmes such as the Glasgow project on crime reduction initiated by a number of stakeholders with local families, victims and perpetrators of crime, and in the capacity development of rural artisans, performing artists and musicians through rural development initiatives in West Bengal, India by Bangalnatakdotcom (Mitra, 2019).

We use a combinatorial approach to construct the essential framework for CE centred round an idea of an extended form of entrepreneurship and innovation as a social good. Schumpeter as a public intellectual in the late 1920s and early 1930s offers us unique insights into the social roots of the entrepreneur, the worker and the economy. We use these insights to advance our
arguments about the social fabric of entrepreneurship and how it nurtures a sense of collective efficacy for citizens to be engaged with entrepreneurship. The possibility of entrepreneurial activity occurring in any environment necessitates an appreciation of the social embedding (Granovetter, 2017) as evinced in the importance of social networks enabling the harnessing of social capital. Social and institutional embeddedness also forms a base for linking the entrepreneurial process with the economics of proximity and with the prospect of exploring innovation as a social good. Other than market and price mechanisms of coordination of collective action, this form of socialization of economic activity appreciates reciprocity and proximity which takes the form of a geographical, cognitive, social and institutional character (Boschma 2005, Torre and Rallet, 2005, Sokołowicz 2015). Successful innovation needs to be diffused and absorbed in society, and whatever its economic benefits might be, its ultimate value tends lie in its capacity to generate social change. We reinforce the idea of entrepreneurship and innovation as a social good by drawing on Elinor Olstrom’s (1965; 2014) concept of the ‘commons’ where citizens are guided by a notion of collective self-efficacy to achieve collective governance over the production, use, distribution and effective understanding of goods and services that affect their lives. We consider this form of collective efficacy as the basis of achieving what Amartya Sen (1993, 1997; 2008) refers to as a capabilities set for citizens to fulfil their aspirations in society through knowledge, skills, civic engagement and moral integrity. The framework facilitates entrepreneurship as a putative social movement of people where citizens can become directly engaged with the formation, development and growth stages of enterprises while addressing economic, social, and cultural disconnects that thwart their sustainability.

We borrow from well-established practices particularly in Citizen Science where citizen knowledge and insight, and local experimentation enhance expert application to develop instruments of creative resolution of issues that matter at both the local and meta levels. Our focus is on urban environments. We use secondary data about various settings to characterize different city eco-systems as well as to derive a comprehensive, multifaceted picture of citizen entrepreneurship in Europe.
An Overview of the Combinatorial Literature

A Schumpeterian Perspective
At a time of another great recession and between 1925 and 1932 when there was much controversy in Germany over fiscal and economic issues, Schumpeter wrote a major series of articles for *The German Economist* covering four topics – tax levels and public budgets, wages and unemployment, business booms and the underlying nature of capitalist society. Economists and entrepreneurship researchers tend to concentrate attention on the first three missing the import of, for example, Schumpeter’s 1930 essay, ‘Change in the World Economy’ his 1932 article, ‘Enduring Crisis, and his 1927 piece, ‘The Function of Entrepreneurs and the Interest of the Worker’(published in a labour magazine). In the first essay he dismisses the idea of limits to technological progress, asserting instead the value of fresh opportunities and new innovations interacting with old ones to produce accelerated progress. In the second he argues about fitting novel ways of doing things to be fitted into the organism of the existing economy (McCraw, 2007). What matters is the long-term interest of entrepreneurship and innovation, and in that longer term the interests of entrepreneurs and workers are identical because the motivation for high earnings for entrepreneurs is a function of the translation of innovations into actual production, raising the standard of living of all. Jobs resulting from successful innovations and the creation of new firms are a social gain for both the firms and society. As firms evolve and small entrepreneurial firms become large establishments the entrepreneurial function alters, a different type of entrepreneur emerges, one who is dependent on the innovative suggestions of specialists to create new products, generate new processes, amend business models and form new types of organisations.

Extending the Schumpeterian ideas, as society evolves changing needs offer opportunities for alternative forms of organisations to meet economic and social needs at the wider societal level. From such a perspective, entrepreneurship and innovation enable the creation of social goods and services. The “benefits of discoveries may extend to the whole human race” and “for virtually all time” (Bacon, 1620/2000, p. 99). In more prosaic economic terms, as Nordhaus, indicated, Invention may be a personal or a social act but inventors capture only 4% of total social gains from innovations. The rest spills over to society (Nordhaus, 1969). Social goods account for both
public goods and those created for private gain because their provenance is socially embedded, giving priority to the wider benefits that accrue to society.

**Social Embedding and Proximity**

The possibility of entrepreneurial activity occurring in any environment necessitates an appreciation of the social embedding (Granovetter 1985, 2017) as evinced in the importance of social networks enabling the harnessing of social capital which is further enhanced by cultural, political, religious, and wider institutional influences on entrepreneurship, and the underpinning themes of trust and legitimacy. Social and institutional embeddedness also forms a base for linking the entrepreneurial process with the concept of proximity which dates back to the Marshall concept of industrial districts (Marshall, 1920). Other than market and price mechanisms of coordination of collective action, this school also appreciates reciprocity and proximity which takes a form of a geographical, cognitive, social and institutional character (Boschma 2005, Rallet and Torre 2005, Sokolowicz 2015).

**Multiple and Hybrid forms of Enterprise**

Despite the advances in a kind of social theoretical formulation of entrepreneurship, research and policy has tended to rely on linear, formulistic and conditional conceptions of economic growth as evinced in small firm growth, employment, and knowledge creation (Acs and Audretsch 2006). Comparable entrepreneurial function is performed by those who provide public goods and services (public sector entrepreneurship), which recognizes the role of the state in being pro-active wealth creators. Mazzucato (2015) has argued that government investment in, for example, technology, medicine, and energy, has driven wealth creation by the public sector sharing risks with the private sector. Where both market prospecting by private enterprise and state intervention at times of market failure, have bypassed social and community problems, the Third Sector, in the form of social enterprises, has created alternative forms of self-sufficiency to address such social needs (Nicholls, 2010). New technology and especially digitalization have made possible a form of open or even ‘free innovation (von Hippel 2017), which connects producers with users as part of a new ‘sharing economy’. At a social level we find high-impact capital from a variety of sources with wide reach and for previously hidden forms of activity, or the monetization of personal assets, time and other resources. These include crowd-based networks (as opposed to centralized institutions and hierarchies), the blurring of lines between
personal and professional activities, and the dramatic change underway in the nature of employment under the broad banner of ‘flexible labour’, resulting in an obfuscation of formal or full-time and casual labour. CE is not restricted to any specific form of entrepreneurial engagement. However, in recognizing multiple and hybrid forms of enterprise development, CE offers opportunities for citizens to make choices and consider a direct or indirect agency function.

The Entrepreneurial Commons
Perceiving entrepreneurship from our broad and combinatorial perspective means analysing this phenomenon as belonging to the whole society, not only to its economy. If we understand entrepreneurship as “acting differently” and if we mean citizen entrepreneurship as a domain of public realm, referring to the concept of urban commons (Olstrom, 2014) can cognitively broaden our understanding of entrepreneurship. The latter are goods which are used by many actors simultaneously. This collective character of commons could cause problems because of overexploitation or free rider dilemma but that problem arises when goods and services are examined only in terms of economic production and consumption. The urban commons include a wide range of urban goods: from parks, squares, streets, gardens and other public spaces, through a range of services offered in the city, such as public transport, water supply, health care and energy infrastructure, to scarce and hardly measurable urban resources as: the atmosphere of life in the city, the culture of functioning of various communities and subcultures of urban environments or urban identity.

The collective character of urban commons implies their three important characteristics: 1. Large number of users, 2. Diversity of the needs of commons’ users (related to the allocation of different values of commons by different city users); and 3. The necessary means of cooperation and integration of many groups of city users in order to produce and consume common resources, optimally.

The above-mentioned characteristics underpin processes that result in the emergence of new approaches to commons management, sharing, protection and development. While traditional government agencies fail with providing the physical and financial resources to keep public
spaces, urban greenery, public transport infrastructure, community and cultural centres at a satisfying level; when the risk of privatization of urban commons appears and when the tragedy of many urban commons arises as a result of weakly or poorly regulated space, more and more urban citizens take joint initiatives to deliver these goods “themselves”, creating cooperative structures. Among such structures, referred to by Foster and Iaione (2016) the commons institutions, we can point to, for example, community gardeners, business improvement districts (BIDs) and community improvement districts (CID)s, neighborhood park groups and park conservancies, and neighborhood foot patrols. Such approach to govern the urban commons demands, however, new democratic design principles, such as horizontal subsidiarity, collaboration and polycentrism. These principles call for the reorientation of public authorities away from a monopoly position over the use and management of common assets and toward a shared, collaborative governance approach. In consequence, the role of the public authority becomes that of coordinator and mediator in co-design processes, while the citizens become proactive actors of urban change. Active citizenship means that urban inhabitants are participating not only passively in the public life of the city, but also co-creating the city, mobilizing and using available resources and opportunities. In this sense, city officials and staff are tasked to assist, collaborate, and provide technical guidance (data, legal advice, communication strategy, design strategies, sustainability models, etc.) to enable themselves to manage, mediate, and coordinate the ecosystem. The collaborative agenda delivers an entrepreneurial urban ecosystem, in which the citizens play a key role. Scientific, technical and social innovations help to foster the creation and use of new knowledge.

Creating Knowledge and Capabilities for Citizen Engagement

Realising the benefits of a CE centred ‘commons’ suggests that citizens require a capability set. There is always a need for a process for generating knowledge somewhere and that knowledge must be embodied in some sort of socially useful technology for it be absorbed and replicated in any way and in any place. Absorption, valorization and replication of knowledge and technology must retain some sort of public goods dimension in terms of being widely available to be of maximum social benefit, and there must be some ability on the part of recipients or users to adapt the technology to their conditions and needs (Dalrymple, 2003). Making this happen is the knowledge, skills, civic intelligence and moral integrity of all its citizens (Ostrom, 1997) coupled
with idea of self-governance, well-being and the collective efficacy of ‘the commons’ representing citizenship in action (Ostrom, E. (1965, 2014) How are these skills to be developed?

Adopting and adapting Sen’s Capabilities Approach (1993, 1997, 2008), allows us to connect the knowledge creation prospect with people’s aspirations and sense of well-being, what Sen refers to ‘functionings’. These ‘functionings’ could include autonomy, self-acceptance, growth and purpose in personal life to positive relationships and positive feelings of happiness. In entrepreneurial terms these ‘functionings could be translated as creating and growing one’s own enterprise to achieve autonomy, through to deriving benefits from that enterprise as a consumer or co-producing goods and services as a user-producer (von Hippel 2017). Emergent entrepreneurial identities of citizens using crowd-based platforms for ideas and resource generation enabled especially by new digital technologies (McAfee and Brynjolfsson, 2017) are a feature of our times. These new identities are a manifestation of collective efficacy, which draw from a ‘commons based’ soft infrastructure, the resources necessary to achieve those ‘functionings’. The outcome is the formation of a Capabilities Set which is an aggregation of the individual’s own capabilities, the socially created ones of status and network or social embedding and the external capabilities or the abilities to function that depend on human or social relationships (Foster and Handy, 2009).

The Urban Context

Extended, combinatorial entrepreneurship has begun to surface, significantly in urban environments. Cities are hotspots for sustainable futures: globally, over 50% of the population lives in urban areas, with problems regarding carrying capacity and social justice. But cities also provide space for experimenting with alternative futures. A core challenge is social polarization (Swyngedouw et al 2002): Trends of globalization and (market) liberalization inspired urban policy makers to compete for capital, a creative class of people and technology. Investigating five cases of European cities, Moulaert et al (2001: 100) identified “a shift from (local) social to (local) economic policy, a ‘new’ elite coalition formation favouring private sector agents and ‘new’ forms of state entrepreneurialism that include large-scale urban development projects and city marketing”. Technology-driven and business-dominated policies often endorsed in theory and followed in practice – lead to increased polarization of citizens. Nearly twenty years on, we
face urgent problems related to the dominance of the market logic and to a lack of a sustainability logic driving creativity, opportunity identification, resource mobilization and venture creation or development. While ‘sustainable cities’ is one of the seventeen Sustainable Development Goals (SDG) of the United Nations, studies of urban social innovation show a variety of approaches and successes. Social innovation initiatives are caught in frictions and are subject to the usual efficiency paradigm.

**Antecedents of Citizen Science**

We borrow from well-established new practices particularly in Citizen Science where citizen knowledge and insight, and local experimentation enhance expert application to develop instruments of creative resolution of issues that matter at both the local and meta levels. In well-established projects on ornithology, conservation of residential ecosystems and other scientific research projects, Citizen Science engages a dispersed network of volunteers to assist in professional research using methodologies developed collaboratively with professional researchers through crowd sourcing and other means (Cooper et al., 2007, Dickenson and Bonney, 2012 and Wynn, 2017). Our conceptualization embraces the Citizen Science construct of volunteer involvement in entrepreneurship research but introduces an activist dimension in economic and social project development initiatives.

Citizens in out CE project are engaged users, producers and providers equipped with an entrepreneurial capability set of knowledge, competencies, civic intelligence and integrity in polycentric settings. Their collective minds set and efficacy for engaging with entrepreneurship in various guises best manifest themselves in the realization of scalable projects that can harness diverse interests and capabilities. Region-wide or urban projects that accommodate individual and collective interest to solve problems and generate new organizational arrangements are often the most appropriate vehicles making CE work.

We build an explanatory model of CE based on earlier approaches that. Our model of CE encompasses multiple local actors, activists, local governments, consultants and organizations. Our work should contribute to an in-depth understanding of the mechanisms and the potential of CE. We propose a transformative agenda for entrepreneurship and innovation for economic and
social change in Europe that involve engagement with communities of citizens and shared knowledge creation (Weisenfeld and Hauerwaas, 2018). Figure 1 below provides for a diagrammatic configuration of our conceptualization.

Research Questions and Methodology

Our overview of the combinatorial literature raises four research questions:

RQ 1 How do we apply the three critical components of CE framework to regionally or locally-focused cases which address local issues and their practical resolutions?

RQ 2 What constitutes collective efficacy or collective endeavor and how do citizens engage entrepreneurially to solve socio-economic problems of global significance but of local import?

RQ 3 How can we develop strategies to enhance citizen capabilities that are scalable and replicable across urban regions?
RQ 4 What are similarities and differences between CE in the three countries and do they suggest the possible outcomes for entrepreneurship as a putative social movement?

Our paper is conceptual in scope and empirical in observation. The lack of prior theorizing about CE makes a case study approach an appropriate choice of methodology for developing theory (Eisenhardt, 1989). We use purposeful sampling of our cases and sub-cases. As cases we focus our research on selected cities in Denmark, Germany, and Poland, with the choice predicated upon our direct contact, knowledge of and involvement as observers or researchers in all four cases. This allows us to show a comprehensive, multifaceted picture of CE in the EU: Denmark shows high levels of equality in relation to most of the other European countries. Despite the challenges resulting from the former division into West and East, Germany is overall a strong country in terms of its economy and political leadership in the EU and beyond, but also shows some nationalist tendencies. As a post-communist country, Poland faces challenges such as nationalist tendencies with strong criticism of the EU. Further, we apply a case within case approach: Several selected sub-cases of CE in each city, (i.e. ventures around a specific issue) demonstrating the polycentric character of CE. We study these cases not in relation to some imagined universal but rather as relative to another locality (Geertz; 1992; Loukissas, 2019) Each case is explored through location-specific, relatively designated CE lenses.

We investigate CE through an explorative study involving engagement with communities of citizens and shared knowledge creation (Weisenfeld and Hauerwaas, 2018). We apply multiple qualitative ethnographical methods of data generation such as participative and non-participative observations, semi-structured and narrative interviews, project-based learning seminars with multiple actors, and action research. Using standard snowballing technique, we collected contacts and relationships, attending where possible events with multiple local actors, activists, local governments, consultants and organizations. Interview guides also served as an orientation frame with room for adaptation during each interview. Contact was made with local administrators and use was made of secondary data to characterize the different city eco-systems (Eurostat, local databases). Intense triangulation implies improved reliability of the data sources. A variety of tools, such as semi-structured interviews, documents, media reports, field notes, twitter feeds and videos were used to collect data about the cases.
We analyse the cases in exploratory, discursive mode referring to the key concepts of Schumpeterian entrepreneurship in society, the Ostromian commons, Sens Capabilities, bringing it all together in a unique formulation and application of the principle of ‘ethos’ and its constituent parts of phronesis, arête, and euonia, as developed by Aristotle in his major work ‘Rhetoric’ (1984) and revisited by Wynn (2017).

Findings and Discussion

Our findings from the four case studies are organized to reflect the exploratory model that we built from our appreciation of the combinatorial literature, In particular we explore how entrepreneurship evolves, its meaning and scope in each of the selected cases, how collective endeavor and citizen involvement, the two dimensions of the ‘commons,’ manifest themselves in the specific four environments helping to develop capabilities for the citizens, and what the urban context provides the backdrop for citizen engagement and the emergence of CE.

Case 1: Citizen entrepreneurship case study; Hanover, Germany

a) Nature, scope and meaning of entrepreneurship

The PLACEproject is an urban experimental field to try out peoples’ ideas for different ways of living, working, sharing, and organizing. It explores ‘prefigurative entrepreneuring’, enacting of people’s visions through the practice of entrepreneurship, which deviates from mainstream notions of entrepreneurship. PLACEproject is a container village providing space for experimentation, for active and participatory bottom up development. Responding to a public call for proposals for “YouthCityLaboratory”, the initiators received a grant of 120.000 Euros over three years for their urban experiment. At the beginning, the group bought a few containers, using the money later for infrastructure such as water and electricity supply and internet connectivity. The project’s multiplier effect spawned many more projects, became known in the city and beyond via media reports, and has been designated as one of several exceptional, exemplary projects for future urban development in Europe. Since 2014 different social and cultural projects test and realise their ideas of alternative living and working models. Some
examples are a Café, a mini-sized eco-hiking hotel, a sewing studio, an inclusive refugee-project, a massage box, a clothes-swapping shop, and a DIY-beer brewery.

b) Collective endeavour
Beyond sheltering the individual projects, PLACEproject explores structure- and community building and alternative forms of using open spaces. The project is thus seen as an enrichment for the whole city in terms of new entrepreneurial forms of economic, cultural and social offers. The application for funding gave some temporary stability to the collective endeavour. A successful application provides institutional recognition (Baringa 2017) with the PLACEproject gaining public legitimacy by being located within the city. From the beginning, the cultural attitudes supported diversity, communality, and experimentation, forming part of an evaluative space for the cultivation of citizen entrepreneurial capabilities.

c) Citizen involvement
Political agents and the city’s authorities welcomed the project, indeed. They saw it as a beacon project for citizens’ participation. As part of an event series ‘How do we want to develop?’, PLACEproject supported intensive dialogue among the actors so that its aim became well known and discussed among a wide cross-section of communities. Attracting social resources (supporters and followers), PLACEproject also experienced critical media attention. The participants organize Open Days and welcome the discourse about the project:

“I like it when people (in the city) have controversial discussions about what we are doing here – it means people talk about it. If people just agreed it would be boring”.

This form of holistic involvement was another method of inculcating an entrepreneurial capability set where people felt they could be informed participants in achieving their ‘functionings’; alongside fulfilling their collective goals. There was no particular emphasis on the use of crowd-based or other new technologies beyond the common reliance on a website and social media for communication.
d) Urban characteristics
Hanover is a mid-sized city of ca 500,000 inhabitants. The city has signed the Charta of Aalborg (http://www.sustainablecities.eu/the-aalborg-charter/), which is a European action program called ‘Towards Sustainability’. An important actor regarding sustainable development is the local Agenda 21 office (established in 1996), and the local administration in general endorses respective aims. It is possible that the size of the city, its commitment to the sustainable cities charter, and institutional endorsement of local actions has enabled a fostering of collective entrepreneurial centred round an essential social aspiration of mixed housing and different forms of sustainable living.

Case 2: Citizen entrepreneurship case study; Sonderborg, Denmark

a) Nature, scope and meaning of entrepreneurship
ProjectZero is a citizen-led societal renewal innovation which aims to enable the region of Sonderborg with approximately 77,000 inhabitants to become zero carbon by 2029 (The Guardian 2015). It engages the citizens as co-designers of the Smart Zero Carbon Sonderborg’s ambition to implement integrated solutions with comprehensive learning and introduce new ICT-based energy information. The project was launched in 2007 as a joint venture between the citizens, politicians and businesses of the municipality of Sønderborg (see Figure 2). Its holistic approach includes Public Private Partnership, green technologies, geothermal solutions, established business including Danfoss and Linak, participation and changing the mindset and a new thinking by and for citizens. The map in Figure 2 below shows the location of Sonderborg, an important consideration in the evolution of its ecosystem.
b) Collective endeavour
The projects have been developed and described by the eight working groups that included participation from housing associations, tenants, project coordinators, IT solution partners, private companies, the municipality, education and research experts. Figure 3 below shows the mix of connected stakeholders making up the ecosystem of the project.

Source: Guardian.com

Figure 2: Map showing location of Sønderborg

Figure 3: The Sonderborg, ProjectZero Stakeholding Pool

Source: www.projectzero.dk
Peter Rathje, the project manager of ProjectZero, emphasized that the project having been possible to include everyone in the Sonderborg area and the results thereof, highlighting concrete actions, involving local engagement demonstrating what cities and is citizens could do together to develop capabilities for necessary local green transition. Three projects, ZEROfamilies, ZEROhome program and Test an EV were designed to generate solid outcomes results inspiring others and achieving the collective ‘functionings’ target of close to the 50% CO2-reduction since 2007.

Table 1 below summarises the features of collective endeavor of the three projects.

### Table 1: Linked CE Projects in Sonderborg

<table>
<thead>
<tr>
<th></th>
<th>Zero Families (Ambassadors to the community)</th>
<th>Zerohome programme (Holistic approach to energy retrofit)</th>
<th>TEST – an electrical vehicle</th>
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<tbody>
<tr>
<td><strong>Contents</strong></td>
<td>Training and education in low carbon and sustainable lifestyle for citizens. Group courses and workshops</td>
<td>Focus on energy retrofitting of homes (16,8000 private occupation homes)</td>
<td>testing ground for electric cars</td>
</tr>
<tr>
<td><strong>Aims</strong></td>
<td>Changing old habits to save energy; filing energy consumption patterns every month</td>
<td>Supported by national funds such as “Fornyelsesfonden.dk” and “Vaekstforum for Region South Denmark”.</td>
<td>ProjectZero was a partner in CLEVER “TEST an EV” project.</td>
</tr>
<tr>
<td><strong>Result</strong></td>
<td>Family focus in creating awareness of actual energy consumption</td>
<td>Served also as role model for how energy retrofit of private homes can create new green job</td>
<td>80 families from the Sonderborg area participated as test pilots</td>
</tr>
<tr>
<td><strong>Supported</strong></td>
<td>Motivation for Offer of free energy</td>
<td>Offer of free energy</td>
<td>each family drove</td>
</tr>
<tr>
<td>activities</td>
<td>identifying new opportunities for energy security and consumption</td>
<td>review/consultation carried out in citizens’ homes. During the consultation the energy consumption was reviewed, improvement opportunities and cost discussed, and an action plan defined</td>
<td>an electric car for 3 months free of charge.</td>
</tr>
<tr>
<td>Impact</td>
<td>Excess of 100 participating families becoming role models for all citizens, enabling scalability</td>
<td>Next step was to connect the house-owners with qualified craftsmen to get the job done in a qualified way</td>
<td></td>
</tr>
<tr>
<td>Effect</td>
<td>Dissemination across EU</td>
<td>Implementation of craftsmen training program to improve their energy understanding and energy consulting competences.</td>
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c) Citizen involvement (how and what)

Figure 4 below illustrates the five steps of citizen engagement solution in Sonderborg. These steps helped to establish good cooperation and communication between the Project and the housing associations, compile teams and prepare programmes of engagement, involve 30 families increasing their awareness of energy consumption patterns, an IT platform for tracking consumption and launching similar processes in other departments, launch and scaling up citizen engagement and making targeted communications.
The three core activities described in the ProjectZero Masterplan 2029 and Roadmap 2015 are 1) substantial energy efficiency measures; 2) converting the energy supply to the areas own renewable sources; and 3) transforming the grid into a dynamic system, a so-called Smart Grid. This means that the infrastructure supplying and producing our energy must be replaced and new infrastructure built. (Brightgreen business.Com, 2017). Table 2 below provides information on three specific provisions enabling direct or indirect citizen involvement and the development of their entrepreneurial engagement capabilities.

### Table 2: Provisions for Citizen Engagement

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Geothermal facility</th>
<th>House of Science</th>
<th>Zero+house</th>
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<tr>
<td></td>
<td>A state-of-the-art Geothermal facility in the centre of Sonderborg</td>
<td>Municipality of Sonderborg together with ProjectZero, Danfoss Universe and other local partners have established the House of Science as a joint project. Recognition of importance of learning for future growth and development</td>
<td>200 m2 modern and very comfortable house, was created in a cooperation between SIB (the local Construction Company), Grontmij (the Consulting Engineers), ProjectZero, SE (the regional Utility Company) and</td>
</tr>
<tr>
<td>Technology</td>
<td>In combination with massive absorption heat pumps and biomass burners, now supply more than 10,000 households, businesses and industrial customers</td>
<td>Integrate climate, innovation and sustainability into science teaching and create a green link between all learning levels, secure sustainability in learning and mindset and impact society.</td>
<td>The house has a positive annual energy cost and sells the excess power to the national grid at the market price. The meter simply runs backwards.</td>
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<tr>
<td>Result</td>
<td>Network will be expanded to supply approx. 60% of households on the island of Als with green, CO2-neutral district heating</td>
<td>The partnership has implemented the results from the ESA sub-project using both level one (teachers) and level two (student) ambassadors for impacting society (level three).</td>
<td>First year of operation: the house produced more energy than the family consumed. The success of the house is based on a combination of energy efficient insulation, ventilation, passive solar heat, geothermal heat pump, photovoltaic and an ultramodern energy management system constantly monitors and optimizes the use of energy.</td>
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d) Urban characteristics

Sønderborg municipality is already the global home of green technology companies like Danfoss, a big player in solar power, and Linak, which makes key components for wind turbines and solar PV installations that track the sun. There is, however, a large number of pig producers in the area (an estimated 2m pigs in total) and a small regional airport. (The Guardian 2015).

Sønderborg Municipality has approximately 77,000 inhabitants and is the 16th largest municipality in Denmark. There is a nearly 200-kilometre stretch of coast, plus wide-ranging forests, including both the forest around Gråsten, and Denmark's longest stretch of coastal woodland on the Eastern side of Als (Sønderborg Municipality).

The transition towards a carbon-neutral city is based on stakeholder participation, coordinated in a municipal or local public-private structure. Everyone needs to contribute to realize the ambitious vision of a carbon-neutral region by the year 2029. In this process, ProjectZero and its partners provide knowledge, inspiration and communication. Participants are not only committed to realize their ideas about the project vision, but they also serve as ambassadors for the cause. Currently, the project faces the challenge of taking the difficult steps from a 50% to a 75% reduction in carbon emissions until 2025. Eight working groups around eight themes were installed in 2018. In December, a plan was approved to go ahead with 50 projects which together shall provide the desired reduction. Again, the goal is very ambitious as it encompasses a systemic transition of an entire geographical region.

To ensure collective involvement, Sonderborg, joins a common platform with other Danish cities which informs about the ambitions and allows for regular exchange, sharing of experiences and inspiration, as part of the EU SmartEnCity project.

Case 3: Citizen Entrepreneurship Case Study; Lodz, Poland

Socially Engaged (pl. Społecznie Zaangażowani) is the non-profit organization with the aim to induce social engagement of and for local communities of the Stare Polesie borough in Lodz, Poland. The founders and leaders of Socially Engaged are a couple, Agnieszka and Szymon, who lives in the Stare Polesie with a rich professional experience as social activists and in managing NGOs. The diversity of projects is notable, from ecological ones (e.g. protecting urban
greenery), through education youths in need, to cultural ones. The binding factor is the borough of Stare Polesie.

a) Nature, scope and meaning of entrepreneurship
The founders of ‘Socially Engaged’ mention individual factors, like self-realisation and improvement of own comfort of life, what Sen refers to as ‘functionings’. They find their actions as a fulfillment of their life philosophy and a source of own satisfaction. They also indicate the importance of internal discord on how the city and borough are organized therefore and the need to test what they can change and with what effort. On reflection, they also point to the wish for intellectual understanding of changes in their city and their borough, as well as the social dimension of their activity.

During first three years ‘Socially Engaged’ existed as an informal group of people with common goals and shared values. The impulse to register in 2013 as a legal entity was caused by the perceived benefits of formalization (e.g. bidding for tenders and applying for grants) but also because of growing number of projects they got involved in. Registration was rather a consequence of acting than the planned goal. When creating the project, Agnieszka and Szymon were not inspired by other organizations in Poland and abroad. The solutions they provide are unique based on the need to be efficient as they respond to local needs. At the moment, for one of the founders Socially Engaged is the only source of income, although none of them treats it as a profession but rather as entrepreneurs and as part of their lives. All other people involved in the organization are volunteers.

The founders’ understanding of entrepreneurship is broad as they define it as a purposeful human activity, in this case connected with fulfilling needs of life in the borough. They also mention that it is their role to add entrepreneurial element to all the ideas and projects which are brought to and realized through their project. The ideas for actions are given by life and situations they encounter when interacting with citizens, and further catalyzed by the city. Uniquely, when compared to more traditional entrepreneurship is that they do not perceive other organizations as rivals. They even mention that they would have been happy if some other people followed their path and organized similar events and projects for inhabitants. Their values are engagement and
cooperation, as an element of building an entrepreneurial urban ecosystem for taking care of the common good.

b) Collective endeavor
In order to enhance collective endeavor, the Association has established the Old Polesie Joint Cooperative as well as a community center run only by the activists. The place is attended by approximately 200 children and youth from the surrounding area, and on a smaller scale, by adults. It also serves as a venue for meetings and small cultural events, as well as a place of contact with the association’s board of directors, which is increasingly perceived as an “intermediary” between the office and the citizens in the day-to-day business of the neighborhood. Agnieszka as a President of the association claims that a community center run by activists and not local government officials has more possibilities to operate “at pavement level”, that is, directly among the local the community. New seat was named “The Meeting Place”, to emphasize its open character and to indicate the promise of community building through partnership with various institutions and businesses.

‘Socially Engaged’ works to strengthen local identity which can treated as an added value to all business and social initiatives in the district. Among others, they published tourist guides and created an urban field game “Discover Old Polesie” (included in the regional education program at the local primary school).

The social activists are perceived as reliable partners in the dialogue with the authorities and it has been possible to develop a certain model of cooperation with the municipality. Being a kind of broker, the association has the capacity to gather opinions about the real needs of the inhabitants and local business people, as part of an urban commons. Consequently, the consultations carried out by the association have enabled the representation of a significant number of residents and property owners to be reached. It has material effects in the allocation for the period of the next 10 year the amount of 230 million PLN (ca. 50 million of Euro) in the city's investment plans, including enhancement of urban streets and greenery. These consultations were finally framed by an official revitalization program, called “Green Polesie”,

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which received the award of the Society of Polish Urbanists for outstanding achievements in creating spatial order of cities in accordance with sustainable development principles.

Although the activists concentrate primarily on urban greenery and the quality of public spaces alongside accessibility of public services around the main square, they also advocate the inclusion in the urban debate the issue of creating a large socio-cultural center in the borough. Activists present a long-term vision of economic and social development of the Old Polesie that could be triggered by a creation of a center with open spaces for both cultural and business activities. This demonstrates an acute awareness of the fact that civic action cannot take place without an entrepreneurial approach and cooperation with the business community.

c) Citizen involvement (how and what)
The functioning of ‘Socially Engaged’ is based on volunteers who regularly come to its premises and offer support. The concentration on rebuilding the ties within the local community by the activists influences inhabitants from outside the association. According to Polish legal conditions, in the case of acquisition of residential apartments as a separate property, the common parts of buildings are managed by housing condominiums. In order to manage such a common good, a representation of the owners of flats as a management board is selected. In Old Polesie, six women representing six such separate entities, have decided to join forces and undertake networking activities, while requesting a public micro-grant to support these activities. It helped to organize small community events, such as common picnics, workshops, dances and movie shows. However, this example is one of the first activities to take place outside of ‘Socially Engaged’ structures (although both parties cooperate with each other, exchange experiences and meet in the community center). The interviewers admit that while children and young people are very willing to become involved in activities in the Old Polesie, this attitude is still rare among local adults. It happens that the association has more people involved outside the borough. This situation is changing, but very slowly.

There is no particular emphasis on technology – the project has a website and uses social media to communicate. Although the basic channels of communication are used in social media, the
representatives of ‘Socially Engaged’ emphasize that online tools have a very weak impact for local people. The best way to communicate associations’ plans and activities is “at the pavement level” through face-to-face contacts, whispered marketing among the neighbors, as well as flyers distribution and information boards in the public spaces of the borough.

d) Urban characteristics
Old Polesie is a part of Lodz, inhabited by ca. 36k people. This stands for almost half of the population of ca. 5% of the Poland’s third most populous city’s population (in 2017, the population of the core city was 694,990 while the whole agglomeration was cohabited by ca. 1,1 million of residents). The period of most intensive development of this borough dates back to the 1860s, when the former agricultural land started to be sold by the farmers to industrialists and developers of tenement houses. It was a result of intensive development of a new industrial town Lodz, looking for land for further expansion. The Old Polesie area is located only one block away (approximately. 200 m) from Wolności Square and Piotrkowska Street, the main popular street in the city. Today it is an area with the highest population density in Lodz, but also a place with a fast rate of depopulation induced by an inner city decline. In the district one of the most important open markets is located, constituting an area of small business and commerce of everyday consumer goods.

An increase in the interest of young and middle-aged people for living in the inner city, was accompanied by a rise in independent initiatives by entrepreneurial individuals keen to change the existing situation of their habitats This was also the case of Szymon Iwanowski, who decided to resettle to the place where his forefathers lived. His grandfather taught at the local school here, his father was attending school in this district, and Szymon who, in his adult life, was living in several places all over Łódź, decided to move back to Old Polesie in 2008. Iwanowski points out that in Old Polesie, despite many problems there were very strong social ties between the neighbors. There are tenement houses whose tenants have known each other all their lives. However a lot of new people have moved here in recent years. This social specificity of the borough was treated as a development opportunity. It emerged that there were more people like Iwanowski in the district. Already in autumn 2008, an informal group of activists known as the Group of Certain People initiated a project aimed at social activation of the residents of Lipowa
Street – one of the streets of Starego Polesia. This action, called “Lipowa odNowa” (renewing Lipowa) concentrated mainly on facilitating communication between the residents and the municipal authorities and showing that it is worth taking care of one's own neighborhood. This action was followed fast by others, including cultural activities, developing guidelines for the protection of cultural landscape, as well as regular neighborhood events.

Our three cases are examples of CE in practice in urban environments. The developments would be in keeping with the rapid concentration of livelihoods in cities, often as a result of higher levels of availability of financial and technological resources. However, our cases reveal a greater interest among their people for a form of social networked based capability development to address local concerns of global significance – the choice of sustainable habitats, the ecological imperative, mobilisation of local art and cultural resources alongside the need to stem decay. This choice is predicated upon the need to articulate a new vision for social legitimacy that reinvents the agenda for life, work and play. We find that in each of these environments collective endeavor enables stakeholders to figure out particular catalysts for transformation.

Unlike the usual discourse on stakeholders which revolves round the role of formal institutions in particular ecosystems, we find the early involvement of citizens in all aspects of shaping their ecosystem – from envisioning, to addressing surface symptoms, to testing systemic limits and structural disconnects (Sharmer and Kaufer, 2013). This focus on catalysts for change and an engaged citizens’ platform provides for the evaluative commons space in which to develop novel capabilities for achieving individual and collective ‘functionings’ (Sen, 1993, 2008). The individual’s own capabilities, the social ones of status and network embedding and the ability to function on the basis of strong human relationships (Foster and Handy, 2009) allow for the realisation of collective capabilities. Critically, they empower citizens to act not just as participatory observers of change but as emergent, entrepreneurial designers of their social and working lives. They develop an epistemological objectivity, and a virtuousness, the Aristotelian ‘arete’ that stretches beyond non-technical critiques of current institution provision because they mobilise resources for their own, new collective institutions, thus generating new capability sets. Through direct involvement our citizen entrepreneurs are less dependent on just primary sources of knowledge, developing a capacity for expertise in critical judgment (Aristotelian ‘phronesis)
acquired through association and collaboration with a range of different talents, ideas, creativity and scientific expertise. Another unique capability afforded by networked and direct participation is what Aristotle referred to as ‘euonia’ or goodwill among and with fellow citizens. In being involved in identifying problems and mobilizing a collective efficacy for finding solutions, they come close to a form of methodological transparency akin to ones shared by scientific and technological communities of interest.

**Concluding Observations and Implications**

We find that through CE, citizens become engaged in addressing local problems and making use of local opportunities. Where CE involves citizens from idea creation through to implementation stages of both commercial and community-based activities and where such projects are not restricted to individuals or groups of experts concerned with enterprise or social innovation, it reduces the tensions between private, public and social enterprise and the differentiated values they generate. We find that where the citizens, exercise collective efficacy as users, consumers, producers, and voters, they can engage with the formation, development and growth stages of the enterprises together with the state in acts of collective governance. This results in the avoidance of a fixation on entrepreneurship as a vehicle for growth and the cultivation of the practice of entrepreneurship as economic and social development.

Our study brings the citizen into the heart of local development, thereby enhancing the understanding of institutional frames, local needs, necessities and opportunities. By identifying the key factors for employing CE as a driver for urban transition, our research sets in motion a community-based entrepreneurship research and development platform that could accommodate different forms of research of plural value to the community where it takes place. The study results should be able to inform research and policy development all over Europe especially to try and help counter the uncertainties of fragile institutional environments.

Critically, our study opens up possibilities for a new, epistemological approach to engaging with entrepreneurship, its meaning, functionality and value. The unfolding of agency across different economic and social actors, and through new forms of user-producer-citizen relationships,
should attract new arenas for entrepreneurship research, and help with the locating of entrepreneurship at the centre of social and economic policy making.

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Web sites and Brochures


ProjectZERO homepage: www.projectzero.dk (accessed on Aug.28.2019)


ProjectZero brochure: The ProjectZero formula: How to create a sustainable city

ProjectZero brochure: Roadmap 2025 – 50 steps towards a carbon neutral Sonderborg