Institutional entrepreneurship in sustainable urban development: Dutch successes as inspiration for transformation

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Abstract
Sustainable urban development is a wicked problem. On the basis of three case studies, we conclude that institutional entrepreneurs play an important role in sustainable urban development. The question we address is how institutional entrepreneurs do this. We theorize and find six tactics that entrepreneurs employ to influence both formal and informal institutions to create a favourable institutional context for sustainable development. We do so by combining insights from both institutional theory and institutional economics. Through framing and theorizing institutional entrepreneurs create new visions on sustainable urban developments, whereas collaboration and lobbying are important for the realization of the projects. The study adds new insights into how negotiation (private governance contracts, property rights) and standardization (certification, standards) form a key to altering incentive schemes and to create a competitive advantage. Through the joint changes in both informal Institutions and the formal institutions the entrepreneurs are able to change the institutional context in which projects are embedded, thereby increasing the feasibility of their projects.

1. Introduction
Sustainable urban development requires institutional change, as existing ways to plan and realize buildings and neighbourhoods have to be replaced or supplemented by new institutions that are supportive of sustainable development. Institutions are defined here as the rules of the game, such as norms that lead to routine-like behaviour (Jepperson, 1991) or rationalized myths (Meyer and Rowan, 1977). These rules may be taken for granted or may be supported by public opinion or the force of law (Dimaggio and Powell, 1983). Socially embedded institutions are often referred to as soft or informal institutions, whereas rules, laws, policies and regulations are conceptualized as hard or formal institutions (Edquist and Johnson, 1997; Johnson and Gregersen, 1994; Klein Woolthuis et al., 2005; North, 1991; Pacheco et al., 2010). Whereas institutional theorists mainly focus on the former: institutions as socially embedded within actors as common interpretations or stock of knowledge (Greenwood et al., 2002), institutional economists tend to focus on the latter: the rules and constraints that shape behaviour such as laws and contracts that are codifiable and enforceable (North, 1991; Williamson, 1985). These two schools of thought have developed as largely divergent streams (Pacheco et al., 2010), where “integrating the unique perspectives and domains of institutional theory, institutional economics, and entrepreneurship research … provides substantial opportunity for expanding our understanding of the concept” (p. 975). This article explores the creative entrepreneurial process of addressing both formal and informal institutions enabling and constraining sustainable urban development, thereby illustrating how the divergent literatures together form a better explanation of institutional entrepreneurship.

Institutional change is the process of de-institutionalization of exiting institutions, and the theorization and institutionalization of new ones (Greenwood et al., 2002). This hence involves changes in both the informal and formal institutions that guide actions. Institutional entrepreneurship can play a role in initiating and/or accelerating institutional change by creating new or transforming existing institutions (Dimaggio, 1988; Leca et al., 2008). Institutional entrepreneurs are conceptualized as influential (groups of) individuals or organizations (Fligstein, 1997; Garud and Karnøe, 2003) that challenge old, and initiate new, institutions (Dacin et al., 2002).
This article asks the question of how institutional entrepreneurs play a role in sustainable urban development by actively challenging both formal and informal institutions. Institutional entrepreneurship is assumed to be especially relevant in the context of sustainable urban development. Cities are dynamic open systems that continually evolve due to internal interactions and formal and natural constraints (Bai, 2003; Holling et al., 2002). Urban development can thus be framed as a ‘wicked’ problem (Rittel and Webber, 1973). A wicked problem is a concept developed in social planning to describe a problem that is difficult or impossible to solve because there is no right or wrong solution: requirements keep changing, complex interdependencies play a role, and there is little opportunity to learn by trial and error, every solution counts significantly. Due to the life span of urban development, negative consequences cannot be undone (Camillus, 2008; Rittel and Webber, 1973).

We discuss three cases in which institutional entrepreneurs play an important role in realizing sustainable urban development. Sustainable here refers to the way entrepreneurs perceive and frame urban sustainability. Based on the cases, we conclude that, in line with the quest as coined by Pacheco et al. (2010), a combination of institutional theory and institutional economics allows for a richer understanding of institutional entrepreneurship. By unveiling how the entrepreneurs’ tactics impact on both formal and informal institutions, we learn how entrepreneurs influence their institutional context to realize their sustainable urban development. Through processes of framing and theorization, a shared vision is created and stakeholders are convinced to grant their support. Through processes of collaboration and negotiation, projects are realized technically, and incentive schemes and property rights are arranged, such that projects prosper. And through lobbying, ‘space’ is created in current legislation: municipalities provide a plot for the development, stretching and changing of current legislations to allow for the project’s development. Hence, by focussing on both the formal institutions (e.g., legislation, contracts) and informal ones (e.g., visions, interpretations), it becomes clear how institutional entrepreneurs interact with their institutional environment to realize sustainable urban development.

2. Method

To explore how institutional entrepreneurs realize their sustainable urban development projects by influencing the formal and informal institutions in which their interactions and projects are embedded, we focus on three cases of sustainable urban development in The Netherlands. A case study methodology was chosen (Saunders et al., 2007) to unveil how the processes evolved. To enable a rich analysis, we made use of a qualitative data analysis (Strauss and Corbin, 1990). A mix of data sources was used to reconstruct the interactive process and cross-validate the findings: semi-structured interviews (recorded and transcribed), direct communications (promotional leaflets, websites, and minutes of meetings), secondary public sources (websites and YouTube) and secondary data from published studies of the cases (see Appendix 1).

We used interviews to obtain a deep understanding of the complex interactions between the entrepreneur(s) and the stakeholders. We made use of semi-structured interviews to get to better understand the actors’ motivations, reasoning, interests and interpretations. The interviews lasted between 1.5 and 2 h with ample attention paid to understanding the process: Why this? How did you do it? With whom? What were the obstacles? How did you overcome them? How does your project change the ‘way things are done’?

We used secondary data to explore how entrepreneurs frame their visions, and how communities perceive them. We continued our search for information until no further contributions were found for the reconstruction of the process (Strauss and Corbin, 1990). All data were coded, based on the theoretical categories developed in the theory section, while leaving room for open coding. In the data we sought to recognize how ‘framing,’ ‘theorization,’ ‘collaboration,’ ‘lobbying’ and ‘negotiation’ played a role in the realization of the project. In the open coding process, a sixth category was found, standardization. After this, axial coding was used to specify and explore the relationship between categories. We made use of constant comparison (Strauss and Corbin, 1990) to ensure that after each round of coding and analysis, we compared new meanings and relationships to verify and deepen the analysis.

As we use a case study methodology, the generalizability of the results is limited. To limit the risk of arriving at incorrect conclusions, the case descriptions were verified and corrected by the key respondents (Saunders et al., 2007).

2.1. The institutional context

The urban planning tradition in The Netherlands is characterized by a top-down approach, controlling developments in detail. This has been the result of the conditions in The Netherlands: cooperation and thinking ahead (planning) has been necessary ever since cities were built in this delta (Hoomeijer, 2011). Urban design and planning has developed as a profession to ensure that we would be healthy, safe, and happy, but leaving little space for individual adaptations (Jacobs, 1961). After World War II this way of planning was also adopted for large-scale developments (Salingaros, 2005; Secchi, 2007). In the past half a century the national government issued Reports on Spatial Development (1958, 1960, 1966, 1974, 1976, 1988, 1992 and 2001), defining policy for urban development that defined both the market and all legislation restraining it.

Formal institutions are constituted in the legal system of spatial planning based on the Spatial Planning Act that came into effect in 1965 (Hayer and Zonneveld, 1999). National and provincial land use plans are broad and provide policy guidelines; municipalities have the statutory power to make both framework plans (structuurplannen) as well as binding “zoning plans” (bestemmingsplannen). The Spatial Planning Act includes a consistency requirement for local and regional plans: plans must comply with the national framework plans, the Minister of Housing and Spatial planning; further, the Environment has the legal power to give directives to provinces and municipalities. The emphasis in the Dutch planning system is on the ‘zoning plan.’ This is the only plan with direct legal consequences for private building initiatives. Especially with respect to materials and the environmental impacts, the formulation, legislation and enforcement of regulations are omnipresent (Loikkanan and Hyvonen, 2011). This connects back to the zoning plan. Any person aspiring to construct a building or change the use of land is obliged to solicit a building permit or in some instances a planning permit. The building or planning application is put to test with the zoning plan for the area.

Urban development is furthermore steered by the national Reports on Spatial planning with decisions about where urban expansion can take place. The process of communication between the tiers of government is characterised by consensus building and mutual adjustment (Faludi and van der Valk, 1994). Thereafter, it is left to the market, usually large development companies, who on the basis of ‘what people want’ will develop new urban districts. This top-down planning has been very decisive for how urban development ‘normally’ takes place in The Netherlands. It has created a situation in which standard low cost and low maintenance family houses could be realized in the outskirts of urban areas. This situation is slowly changing.
2.2. Cases

For this study, three cases were selected that had successfully realized sustainable urban development but were different in their approach (one powerful entrepreneur versus a coalition of actors): in their underlying drive (profit seeking versus ideological motivation), as well as in the scale and audience of the development (building, business park, and village). The variety in cases makes it possible to observe the resemblances and differences in tactics and enables development of theory on institutional entrepreneurship.

Furthermore, the three cases were chosen because they have had a profound and tangible effect on the formal and informal institutions in which the projects were embedded: they have had an impact on the visions, understandings, norms, and values surrounding urban development (informal institutions) and on the rules, regulations, contractual forms and, e.g., certificates hindering and stimulating sustainable urban development (formal institutions).

The Solids concept is on the scale of a big building — developed by Frank Bijdendijk, former manager at housing association, Stadgenoot. The core of the “mixed and flexible use concept” is provided by a main construction (skeleton with roof, foundation and facades) in which various functions can be accommodated simultaneously. The first Solids building was developed in the centre of Amsterdam in 2011, and was rented out within one day in an Internet auction. The building incorporates functions including social housing, commercial penthouses, hotels, restaurants, and a hairdresser.

EVA¹ Lanxmeer (Culemborg), the second case, is a small scale, self-organized, sustainable conceptualized urban development initiated and managed by Marleen Kaptein, a concerned citizen. It is internationally recognized as an example where social and urban quality is interwoven with smart development with nature. The plan realized between 1994 and 2009 consisted of 250 houses for 800 residents, (collective) permaculture gardens, 40,000 m² ecological office buildings, a biological city farm and the ‘EVA Centre for education, information, and advice.’

The last case, Park 2020, is the first full service Cradle to Cradle (C2C) business park in The Netherlands initiated by Zacahriassen, CEO of Delta Development. Leading for the development of the park is the C2C concept of closing of the materials, energy, waste and water loop (McDonough and Braungart, 2002). The realization of the broad concept entails more than closing of material loops: it also includes human factors connecting to the larger urban scale (actively seeking for energetic and other synergies) (Fig. 1).

3. Theory

Our cities play a large role in using energy, materials and water, and they also have a high output of carbon oxide, waste and sewer water when it comes to their construction and exploitation. This not only relates to the scale of buildings (Spence, 1995) but also to the urban scale, where one can add the environmental challenges related to infrastructure, planning (e.g., commuting distances), public spaces and water management. It is therefore important that we obtain a better understanding on how sustainable urban developments can be realized. In The Netherlands, several experiments and projects have been successful (TNO, 2012), but the diffusion of these practices remains low (Bossink, 2011). This is due to the complex nature of urban development (Sminia, 2011). Cities are complex adaptive systems and, as a result, their development is the wicked problem (Rittel and Webber, 1973) referred to earlier. Wickedness isn’t a degree of difficulty. Wicked issues are different because traditional processes cannot resolve them, as they have innumerable causes, are tough to describe and do not have a right answer. Environmental degradation, terrorism, and poverty are

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classic examples of wicked problems (Camillus, 2008). In the case of sustainable urban development, the ‘wickedness’ lies not only in the technical sophistication, multiple scales and multi-actor character of the problem, it also relates to the fact that there is no consensus on what sustainability is in an urban context.

Furthermore, sustainable urban development is a contextual problem; a good solution for location A and people B may, however, be a bad solution for location C with a different population. It is hence impossible to define ‘top-down’ what is the optimal solution, and true sustainable solutions should hence involve the local context in its broadest sense (people, sub-soil, nature, infrastructure, etc.). The challenge is hence not only in finding the ‘right’ solution but also in creating the conditions in which ‘right’ solutions can be realized. Institutional entrepreneurs can play an important role in this. They can inspire new ideas, build coalitions and engage in political action to create a new path for development. In this article, sustainability is hence depicted as a strategy for action (Hooimeijer, 2011), a vision that entrepreneurs have and realize in concrete urban developments.

DiMaggio (1988) conceived institutional entrepreneurs as being actors that have sufficient resources to realize an interest of value to them. Others emphasize how entrepreneurs can engage in political strategies, such as lobbying and creating advocacy coalitions to change institutional constraints in their favour (Bansal and Roth, 2000; Garud and Karnøe, 2003; Hillman and Hitt, 1999; Oliver and Holzinger, 2008). In an extensive literature review, Pacheco et al. (2010) describe the tactics that entrepreneurs can use to influence their context in order to negotiate favourable conditions for their venture. This article builds on this work.

Through framing, entrepreneurs can depict their preferred institutional arrangement as appealing to the widest possible audience (Pacheco et al., 2010). As such, the entrepreneurs create legitimacy and support for their envisaged ‘right’ solution for the wicked problem of sustainable urban development. This framing tactic does so by tying in new ideas and technical solutions with commonly accepted narratives (Lawrence and Phillips, 2004). Theorization is another tactic that entrepreneurs can use to create support for their ‘right’ solution. They do so by emphasizing chains of cause and effect that legitimize their solution (Pacheco et al., 2010). They can do so not only by specifying why the ‘old’ way of doing things is ‘wrong’ but also by justifying their suggested change as being superior on moral and/or pragmatic grounds (Greenwood et al., 2002). Markowitz (2007), for instance, shows how socially responsible investment funds try to build legitimacy and support for their envisaged project or business, this increasing consensus that they should not be viewed as super heroes (Suddaby, 2010). Rather, they should be viewed as agents that promote new institutional arrangements that can form a prelude to institutional change (Greenwood et al., 2002; Pacheco et al., 2010). The actual realization of institutional change is a much broader and more complex task, and it is unclear whether it can be orchestrated or forced. Institutional entrepreneurship should therefore be viewed as a process of distributed activity (Garud and Karnøe, 2003) because institutional change requires a broad involvement of actors, and a dialectical interaction between entrepreneurs and their institutional context (Bansal and Roth, 2000; Vermeulen et al., 2007). This is especially the case in urban development, where projects are realized in close interaction between, for instance, builders, developers, architects, government officials and tenants. These projects are under close scrutiny of rules and regulations, and are in a creative process between architectural wishes, technological possibilities and material constraints.

This article focuses on how institutional entrepreneurs realize their projects by using tactics of framing, theorization, collaboration, lobbying, standardization and negotiation, and how these tactics impact on the formal and informal institutions in which the projects are embedded. We expect that alterations in both formal and informal institutions play an important role in providing the ‘space’ for sustainable urban development. Institutional theory generally downplays the role of formal institutions, arguing that rules and regulations derive their strength through enactment (Scott, 1991), and the focus is mainly on the role of the state in generating or endorsing change (Tolbert and Zucker, 1983). Institutional economics tends to downplay the importance of informal institutions, practices, norms and values, as they conceptualize actors as rational agents guided by self-interest and economic opportunities (Williamson, 1985). This article seeks the middle ground and asks the question of how entrepreneurs’ actions can lead to changes in both formal (e.g., regulations and contractual forms) and informal institutions (e.g., practices and beliefs), as our aim is to get a better understanding of institutional entrepreneurship in sustainable urban development.

4. Results

In the theory section we described how entrepreneurs could use framing and theorization to create a new view and superior
solutions to a ‘wicked’ problem. We also elaborated on how collaboration and lobbying could help to realize developments and to build up power to overthrow existing beliefs and constraints. Lastly, we theorized how negotiation could help to change old, and create new, business models. This section describes how the entrepreneurs used these tactics to realize their plans by en-acting formal and informal institutions.

4.1. Framing: developing a vision on sustainable urban development

A first observation across the three cases is that there is no shared view on what sustainable urban development is, confirming the observation that it is a wicked problem (Rittel and Webber, 1973) to which there is no one ‘right’ solution. The entrepreneurs individually frame their vision of sustainable urban development.

Bijdendijk sketches a vision of the Egyptian pyramids or the Amsterdam canal houses. These structures have survived the ages and have never lost their function nor their value. He especially uses the Amsterdam canal houses to frame urban sustainable development; the houses have served as warehouses, houses for the affluent, apartments, offices and parking garages; clearly, they are still used for all functions today. Bijdendijk frames urban sustainability as an emotional, rather than an environmental, problem:

First, the power of accommodation. By making real estate that can be accommodate various function so that people can use their premises as they wish, one can create attachment and emotion between the object and its user. Second, dearness, a collective quality that real estate has to unite people.

Canal houses are loved by their users and are treasured surroundings: no one wants to demolish them, as they have kept their functionality while also adding to the qualities of Amsterdam.

Kaptein sees permaculture as “a living environment that demonstrates the diversity, stability and resilience of natural ecosystems and creates conditions for social environments and conscious life-styles.” To realize a neighbourhood based on the permaculture philosophy, she emphasizes the elements of: “…collaboration between human beings and nature, autonomy, re-cycling, closing urban and agrarian cycles, … developing self-supporting systems, the use of sustainable sources of energy and water.”

Kaptein champions the development based on her personal wish to contribute to a more sustainable and environmentally friendly society, as well as to increase the involvement of the general public with global, environmental and social issues. She frames sustainable development as a way of doing things differently by using smart technology, involving the natural system and doing-it-yourself. She builds her framing tactics around the input of professional specialists that give credibility to her vision by sketching a development path that would appeal to future stakeholders.

Zachariassen reasons from the perspective of waste, and frames sustainable development as one in which materials should be seen as being borrowed, rather than owned. His view is inspired by the Cradle to Cradle (C2C) philosophy. The mission statement on the corporate website is:

“The consequences of the tremendous expansion and growth over the last century in our part of the world have meant a shortage of land and an abundance of obsolete buildings and derelict sites. We acknowledge this and realise that it is time for a new approach in the way in which we develop. We think it’s time to re-think development.”

Zachariassen frames sustainable urban development as completely rethinking the whole value chain of realizing, but also demolishing, buildings. Materials are central to his vision. Materials should be selected and used in such a way that they can be returned to the supplier (reverse logistics), re-cycled, or used as input for another value chain (e.g., as fertilizer). Whereas the C2C concept focuses on closing the material, water and energy loop, Zachariassen explicitly chooses to also focus on the human aspect, as he believes that C2C buildings are more pleasant to work and live in, and are of value to their direct environments. This broadens the current belief that sustainable real estate developments are costly and only recoverable through higher rents or lower energy bills.

All entrepreneurs relate their framing back to narratives that their stakeholders can relate to, or are commonly accepted (Lawrence and Phillips, 2004): the dearness of a beloved city, peaceful and healthy living in the country side, and not leaving waste behind for our children, thereby conserving mother earth. They sell their ideas by attaching positive emotions to the endeavour of sustainable development (more beautiful, profitable, etc.), rather than referring to negative reasoning (e.g., environmental degradation).

4.2. Theorization: moral and pragmatic reasons for legitimizing sustainable development

A second observation is that all entrepreneurs use theorization to ‘prove’ the old way of doing things wrong, and their solution ‘right.’ They do so by using causal reasoning on moral and pragmatic grounds, as described by Greenwood et al. (2002).

Bijdendijk explains why multi-use buildings with flexible zoning are ‘the right solution’ for sustainable cities by referring to the fact that these buildings will not be demolished. Whereas typical social housing developments are demolished after 30–50 years, the Solids are built for a minimum of 200 years, thus reducing the environmental impact by a factor of four to seven. To claim superiority of his concept, he uses the following story:

“If you compare the business models behind a small den in the woods, a pyramid and a social housing project: what is the best? Well, the den is of little value but doesn’t do much harm either... it will just perish when abolished. The pyramid has cost a lot, but has always maintained its function and is still creating value for Egypt today! The social housing development is the worst: it may not cost much, but has no intrinsic value: people don’t like to live in them, the houses don’t increase the attractiveness of the neighborhood... Hence, the buildings are demolished, all too often bringing high costs to the owners, tenants and our environment!”

Whereas this relates to the unwanted moral consequences of ‘bad’ urban development, i.e., the negative environmental impact, Bijdendijk also reasons why Solids are superior on pragmatic grounds. He argues that the buildings can be amortized over a longer projected life, have higher rental incomes (tenants pay a premium for freedom of use), and that rental incomes can be optimized because functions can be adjusted over time in response to market developments. Furthermore, maintenance costs are reduced because of the durable skeleton and facades, and all costs related to the interior (furnishing and refurbishing and maintenance) are eliminated. Bijdendijk sees proof of the superiority of the concept in the fact that the first Solids building was rented out in one day through an Internet auction in 2011 in the middle of the crisis.

The argument that Kaptein makes is that urban development can be done differently, and that permaculture and development on a small scale work. Through her keen interest in permaculture, the author built up a strong network of influential innovators in the built environment. In that same period, the Dutch VINEX locations were developed: large scale one-size-fits-all urban developments on the outskirts of larger Dutch cities that were solely allocated to housing.
Kaptein was strongly opposed to this development and — together with her network — developed EVA Lanxmeer that can be considered an entirely different small scale development - in balance with nature and in close collaboration. Many actors were involved, including producers, users, evaluators and regulators. All partners contributed to the development with knowledge, interests, and contributions from their specific point of view, resulting in an urban area that answers to all the characteristics that Kaptein envisaged for a permaculture urban development. The partners’ theorization that the old large scale developments were ‘wrong’ and their small scale, bottom-up solution ‘right’ has been proven valuable in recent years. The joint development of resources drying up as a result of the ecological and financial crises, and of citizens/consumers wanting more say has led to a situation in which small scale, private urban development projects are quickly gaining popularity.

Zachariassen disqualifies the old way of realizing buildings as outdated: As materials get scarcer and upcoming economies make a greater claim on resources, new ways have to be invented to build in a way that materials are utilized in a cyclical manner, rather than using, and then abandoning, them. Although his Park20/20 development is based on the C2C principle of no waste, it has proved impossible to pre-define the environmental impact or gains. Superordinate value was claimed on a broader basis than the environment, and more on the basis of expectations than realized gains. The specification of the C2C concept in the realization of the office buildings in the park is done in close collaboration with partners and suppliers. As the developers and partners learn about C2C, advantages are discovered and realized. These are broader and more compelling to investors than ‘just’ sustainability objectives. Zachariassen justifies the extra costs of a C2C building by relating a higher rent or investment to the total running costs of a business. He wants potential clients to think of the building as a work environment, not just a building:

“I don’t want to create an office, I want to make a work environment where people feel happy, can be worry-free, where people are healthy and productive. The building should create value for the tenant. ... the offices provide a healthy work environment, reducing sick-leave and increasing productivity. If an office for 500 employees reduces absenteeism by 1% this translates to an annual saving of 375,000 €. ... The higher rents for C2C buildings should hence be seen in the light of this whole picture.”

Zachariassen sees proof in the superiority of the C2C concept because new-builds have come to a standstill in 2012 in The Netherlands; however, the Park 20/20 development is still attracting customers and is in full development.

Across all cases, theorization bears on both moral and pragmatic arguments. In the Solids and Park20/20 case, the pragmatic argument is that their solution can be considered to be a better business proposition and, as a nice side-effect, is sustainable too. In the Lanxmeer case, the causal argument bears mainly on moral argumentation referring to environmental values and quality of life, rather than to business models.

4.3. Collaboration: merging diverging interests and co-creating new developments

In the context of realizing urban developments, collaboration is important, as the wicked problem can only be solved by including multiple stakeholders. To realize the Solids concept, Bijdendijk approached a number of innovative building companies that were willing and capable to realize a high quality development. The development was executed in a traditional tender. Solids was not set up as a trajectory of distributed agency to change institutions. Bijdendijk was convinced that only a main contractor could change the way things were done:

“I am of the opinion that there is only one party that is independent of the system, the contractor, an institutional contractor as we are, the housing corporation. That is the only one that is in the position and has the power to break through the malfunctioning old system. All those others … nothing will come of them.”

Lanxmeer is a case in which collaboration played a very dominant role. From the conception until the final realization, its development was a bottom-up ideological endeavour to create a permaculture village. Kaptein started with a vision in 1994, and after building a solid advocacy coalition for the “product” with an interdisciplinary group of experts, he then set up foundation EVA in 1995, and a year later commenced with the public private partnership between the project group (inhabitants, businesses) and the municipality. Following that, an innovative consortium was formed of companies, (landscape) architects, urban designers, developers, energy companies, Water Board Rivierenland, Polder District, a waste water treatment company and the (future) residents represented in the EVA foundation. All came in with their own interests and skills, making it a complex process of co-creation. Specialists wanted to develop and apply their knowledge, residents wanted to live in harmony with nature, and companies wanted to develop Lanxmeer to show off their skills. Further, governmental bodies contributed to the project: small subsidies were granted by the Dutch Ministry for Housing, Spatial Planning and the Environment and the Stimulation Fund for Architecture. Overall though, the project was self-funding.

To Zachariassen, the realization of the business park posed an unexpected challenge, as it appeared he was one of the first to attempt to realize a C2C development on this scale. As a result, he had to ‘learn by doing’ how a C2C building should be realized. This required close collaboration with McDonough and Braungart to guide on C2C principles, with a network of business partners for the technical realization, and with customers to formulate demand. A partner programme was established on the basis of the willingness of companies to learn about C2C, adjust products and practices to this philosophy, and to work to maximum achievable quality and long term learning, rather than squeezing margins and short term profits.

“As soon as you start messing about with cutting margins, you get a value chain of threefold misery.”

It hence required a complete reorientation of values and practices in the value chain. This entailed joint responsibility in the sense that all partners assumed responsibility for their part in the development, and invested in the development of their products and services to make them meet new demands. Close collaboration was sought with customers to jointly formulate these demands. Customers had to be made aware of the C2C concept, and needed to consider how this concept could help create value for their company, e.g., through increased legitimacy (image), employee loyalty and productivity.

4.4. Lobbying: involving the municipality to create space

Lobbying tactics have often been mentioned as an important instrument for institutional entrepreneurs. In the realization of the sustainable urban developments in this study, the close interaction with, and support of, local authorities has also proven essential. As the built environment is tightly reigned by rules and regulations (Loikkanan and Hyvonen, 2011), any deviation from the norm can cause legal issues to arise.

This is the main reason why the Solids concept took many years to develop. Legal issues arose around the concepts of ‘mixed use’ and ‘unfixed or flexible use.’ Normally, the planning regulations determine land use zoning, building regulations, height, lot coverage and building line. In the Solids case, there is no zoning applied, and tenants are free to use the space in the building to their liking. “Freeing” a location from its zoning had not been done...
before and was a radical break with tradition and convictions on the importance of planning and control. The housing association hired spatial law specialists to get a concise reading of the law. From these consultations it became clear that the Solids concept was not inconsistent with the law: it was the taken-for-granted interpretation that it was inconsistent with, rather than the law itself. This strengthened Frank Bijndendijk is his belief that the project could be realized if only he was given support by the most powerful stakeholders, and hence he personally visited the Municipal Councillor to convince him of Solids’ potential. In his first conversation with the responsible Municipal Councillor, Bijndendijk asked:

B: How did you get in this position?” Municipal Councillor: “I have been elected.”

B: And what do your voters want? Municipal Councillor: Freedom of choice of course!

B: That is exactly what my concept is about!

The Municipal Councillor agreed and gave Stadgenoot permission to build with mixed and unfixed land use. His high level support, in turn, gave backing to the civil servants that were responsible for granting and controlling building permits, and monitoring of safety regulations. They were to treat controversies in the project in a flexible way.

Kaptein and her foundation managed to get full support from municipal and provincial politics, the director of spatial development and the Municipal Councillor of Culemborg. The municipality bought a large piece of land from a farmer, thus providing the development plot and the Province of Gelderland commissioned with 200 extra houses. Without this support, as well as the realization that part of the development being in a protected drink ˇce space in the area (with almost 50% free use capacity in the area (with almost 50% offices vacant in a two mile radius).

4.5. Negotiation: new contractual forms supportive of sustainable development

Negotiation was added as a tactic inspired by institutional theory, as it was expected that the alteration of contractual agreements and property arrangements would not only increase the feasibility of a project by changing stakeholders’ incentives, but would also tackle problems with split incentives. In our experience, negotiations indeed play an important role in enabling sustainable urban development.

The Solids concept breaks with the traditional business model in which an owner owns the building and its interior and where there is a pre-set destination for all future use. In a Solids building, ownership of the exterior and interior is split, giving the tenant full freedom to use the interior to his or her own liking. The tenant also gets the responsibility for the placement and maintenance of the interior. The Solids concept thereby introduces a new contractual form that alters ownership relations and changes the incentive scheme of the owner and the tenant. The owner’s interest is to realize a building that is as flexible and sustainable as possible in order to be able to exploit the building as long as possible. The tenant’s interest is to create and maintain an interior that best suits his or her interests. The positive side-effect is that this leads to fewer mutations and less demolition, making it a viable business model, whilst also preserving the planet.

In essence, Lanxmeer is a jointly owned development, but it has also introduced new ways of ‘owning’ a house in the area, including new sorts of property rights and responsibilities. The inhabitants are officially organized in a Foundation of Owners established in 1998. In their statutes, sustainability goals are formalized as well as the property rights and responsibilities. When purchasing or building a house in Lanxmeer, inhabitants commit to the following binding rules:

- minimal use of energy, fossil fuels and scarce materials,
- machines with high energy, water, reuse and recycle
- minimal use of cars
- active participation in social activities and increased cohesion
- maintenance of public space

The Lanxmeer community hence is not a ‘free’ community; people commit to a lifestyle and have to adjust their personal material wishes to the Lanxmeer ‘code of conduct’ that includes restrictions on what they can buy or use. The obligation to jointly maintain public space is formalized in a “House Rules” contract with the municipality in 2005. Public space, formerly under the jurisdiction of the municipality, is now joint property of the Lanxmeer community. The goal to minimize the use of cars is formalized in a Car Share Contract between inhabitants in 2004: they are obliged to share their privately owned cars, thus restricting car ownership to a minimum.

Further, in Park20/20, new² contractual forms were introduced, i.e., Zachariassen made extensive use of lease concepts, where instead of buying lighting, office furniture and other equipment, these ‘functions’ were hired with clear agreements on how furnishings would be returned. This entails a clear break with the past where owning real estate was seen as almost a free ticket to safe returns. In general, falling real estate prices make the market nervous, and actors look for ways to have property for exploitation, without the risk of price decreases. Exploiting properties in lease constructions is one potential route.

4.6. Standardization: setting the standard to create a competitive edge

In the coding process, we found a sixth category that we labelled standardization. In the development of Park20/20, we found this to play an important role. In the other cases, it did not play a significant role and thus will not be discussed here.

In the development of the business park, the entrepreneur found that the C2C concept was more of a philosophy than

² New here is new to the industry, lease concepts have of course long been used in other industries.
a concrete guideline. Whereas in some other countries the C2C concept might be better developed with concrete materials and building practices, in The Netherlands the practical application is still in its infancy. The project manager of Delta reported:

“We truly did not know how to realize the C2C philosophy in practice. We had only three C2C certified products: a carpet, chair and window frame. How we had to take it from there was a complex search process between us and our partners.”

Materials that were C2C certified in the United States, did not exist in The Netherlands, and the approval of new materials (like a novel light weight concrete) could take years to pass Dutch building and safety regulations. It was in this uncertain field that the entrepreneurs had to invent their own approach to making the philosophy operational. In close collaboration with McDonough (two local C2C specialist companies and the help of some university professors), the partners started with short listing 300 products that could potentially become C2C certified. They then worked towards defining new constructions and installations that were compatible with the philosophy. The assessment and certification were conducted by McDonough Braungart Design Chemistry (MBDC), the global sustainability consulting and product certification firm of McDonough.

On the basis of this finding, we add Standardization (Certification) as a tactic. Looking back into the literature, we can relate this finding to earlier literature in which the sustainable strategies of companies were studied (Bansal, 2005; Hart, 1995). These studies report that companies can create a competitive advantage by actively influencing or setting standards, for instance, in the form of certification (Boiral, 2007). By being the first to introduce or adopt a standard, an entrepreneur can create a competitive advantage and thereby hold a temporary monopoly (Porter, 1980, 1985). To maintain such competitive edge, skills or resources should be hard to imitate, and preferably be intangible, i.e., embodied in people, skill based, and developed in learning-by-doing. Social complexity also adds to difficulty of replication, as competitive advantage is created in a complex social interaction between, for instance, teams and organizations, as well as with huge coordinated efforts. Thus, whereas standards and certificates are tacit, the processes behind them are usually complex and time consuming. By setting standards, others are forced to follow and will have a hard time to catch up.

Zachariassen clearly describes his intentions according to the reasoning above. He offers partners and competitors knowledge (training and education on C2C), as he feels confident that others can learn about C2C; however, applying knowledge is quite a different thing. His years of experience in close interaction with a closely knit network of contractors, installers and suppliers with certified products give them a competitive edge, as they collectively know how to use and integrate technical solutions to reach an optimally functional C2C building.

5. Discussion

We learned from these cases that sustainable urban development is not a pre-defined ‘thing’; rather, it is a process that involves not only institutional entrepreneurs and their direct environment act but also enacting of existing and new institutions.

Entrepreneurs play an important role in framing sustainable urban development. They frame sustainable development as an emotional problem, relating it to subjects that are dear to them (children or beautiful architecture), to profitability, and to the premise that it can be done! As such, they create an informal institution: a vision and a credible narrative of how to achieve it. Presumed and taken for granted social preferences (e.g., that everybody wants a semi-detached house or a standard flat) are being replaced by alternative beliefs that people do care for quality and that they want to take part in making their house or environment more sustainable or customized to their needs. The way people are mobilized in Lanxmeer is reflected in a new type of urban development that is currently evolving, and that is formalized by the new Dutch Environmental Planning Act in 2012. The act provides the legal conditions for sustainable bottom-up initiatives for urban development.

Realized projects play an important role in demonstrating the superiority of the new solutions over old ‘taken for granted’ ways of doing things, at least for those parties directly involved in the project, and often also to a larger audience. Entrepreneurs who make use of the tactic of theorization prove their solution to be ‘right.’ In this process, entrepreneurs try to de-institutionalize old institutions, and introduce the new. The fact that these ‘new ways’ prove feasible — both technically and financially — helps to alter both formal and informal institutions. Beliefs and business models are altered on its base, and well-meaning government officials provide the physical and legal ‘space’ for the projects by supporting the underlying rational of sustainable development.

The entrepreneurs did not only bring together a supportive coalition, but also had to create the support of government officials or local politicians, as well as get approval of the plans that were mostly inconsistent with current legislation, evidence of taken-for-granted ways of doing things. The most clear and convincing example is the Solids case, in which the entrepreneur’s lobbying tactics were strong enough to create — at first — an exemption to realize his own project, but later initiated a wider spread change process in which other municipalities decided to also change the way rules were interpreted, and consequently applied for sustainable urban developments.

The new solutions realized in the cases also had a bearing on the contractual forms and property rights in the developments. New contractual forms were negotiated, such as lease concepts and contractual arrangements, for shared ownership and responsibility for public spaces. A positive side effect of these developments is that the quality of products and services will be better, and the life-expectancy longer because the owner remains responsible from start to finish (demolition and waste). Hence, in practice, we see how new contractual forms and property rights form an important key to solving problems around split incentives and negative externalities that are very characteristic for urban developments (Klein Woolthuis, 2010).

On the basis of our cases, we distinguished a sixth category, that of the role of standardisation in creating new formal institutions. It has previously been argued that certification (Boiral, 2007) can help to spread new practices in organizational fields. The use of certification in creating a competitive advantage has not been discussed in the existing literature on institutional entrepreneurship. Our findings resemble the process of setting technological standards to
gain and maintain a competitive edge (Penrose, 1959; Porter, 1985). Being the first to create an industrial norm, with certificates to substantiate adherence to the norm, also appears to be a mechanism that works in successful sustainable urban development. This calls for further study and understanding of how certification and standards work in the context of urban development (Fig. 2).

6. Conclusions

Based on our study, we conclude that institutional entrepreneurs play an important role in sustainable urban development. Sustainable urban development is – as theorized – a wicked problem. Institutional entrepreneurs use concrete tactics to sketch a possible ‘way out’ of this problem, and influence both formal and informal institutions to create a context that is more favorable to sustainable developments. Whereas institutional theory has previously paid attention to, e.g., tactics of framing, theorization, lobbying and collaboration (Greenwood et al., 2002) in changing the institutional context, the roles of private governance mechanisms and standardization as important institutions have not been emphasised in previous literature (Pacheco et al., 2010). In our study, we find that understanding the privately negotiated formal institutions (contracts and property arrangements) contributes to the understanding of how entrepreneurs ‘make it happen,’ as these arrangements form the key to altering incentive schemes and merging interests, hence making a new solution feasible. Also, the role of standardization – as an active strategy to create a competitive advantage – contributes to our understanding of how institutional entrepreneurs can succeed. Through alteration of formal institutions (certificates and standards), a competitive edge is created and field change potentially initiated, resulting in other organizations following suit. We believe that the combination of insights from institutional theory and institutional economics provides a deeper and richer understanding of how entrepreneurs interact with their institutional context.

Acknowledgements

We thank the Ministry of Economic Affairs for their assignment for studying several projects of sustainable development in The Netherlands. The Solids and Park20/20 case were initially studies within this project.

The authors are grateful for the contribution of the entrepreneurs that were interviewed for this study and openly shared information and insights into the wicked processes they went through to reach success. We also thank the two anonymous reviewers of our article; their suggestions were very instructive for the further development of this article.

Appendix 1. Data sources.

<table>
<thead>
<tr>
<th>Interviews</th>
<th>Direct communications</th>
<th>Media/studies</th>
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<td>Solids, Bijendijk</td>
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<td>Company websites, communication materials</td>
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<td>Municipal Councilor</td>
<td>YouTube, newspaper articles, secondary data from research reports</td>
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<td>Legal advisor</td>
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<td></td>
<td>Project developer</td>
<td>Minutes of EVA meetings, plans, powerpoint presentations, contracts, statutes, project descriptions</td>
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References


