A coordination perspective on dialogue processes between planners and developers in a sustainable urban development project

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Abstract. Several of Sweden’s Local Planning Authorities (LPAs) use developer dialogue processes between them and building actors to aid in the implementation of urban development projects. The idea is often to achieve ambitious local sustainability goals - not only in increasing housing supply, but also in striving for carbon neutrality, green architecture and social responsibility - while attracting new developers and business to the city. The approach encourages a generally appreciated collaborative culture; however, tensions such as between cost-driven priorities and sustainability-driven priorities between or within stakeholders could inhibit collaboration and negatively affect sustainability outcomes.

Previous research [2] highlights challenges with working operationally with sustainability-related work within the organization of Swedish local governments, for example, in relation to the need for coordinating various processes of interaction. A study of developer dialogues by six Swedish LPAs by Storbjörk et al. [3] also illustrates how the LPAs struggle to identify what types of collaborative practices that best support the implementation of raised sustainability ambitions.

1. Introduction

As part of the general tendency of increased public-private interaction in the Swedish public sector [1], several of Sweden’s Local Planning Authorities (LPAs) use developer dialogue processes between them and professional builders/developers to aid in the implementation of urban development projects. The idea is often to achieve ambitious local sustainability goals - not only in increasing housing supply, but also in striving for carbon neutrality, green architecture and social responsibility - while attracting new developers and business to the city. The approach encourages a generally appreciated collaborative culture; however, tensions such as between cost-driven priorities and sustainability-driven priorities between or within stakeholders could inhibit collaboration and negatively affect sustainability outcomes.

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In our study, we aim to depict and analyse a developer dialogue process used by a Swedish LPA in a sustainable urban development project through the theoretical lens of organizational coordination mechanisms. Particular focus is placed on exploring how urban planners and building actors interact, from a perspective of coordination mechanism, while negotiating and implementing locally defined sustainability priorities. A similar theoretical lens, using an institutional theory approach to coordination mechanisms, has been applied in previous research [4] to study coordination among actors in the planning and building process.

2. Introducing the sustainable urban development project

The sustainable urban development project is located in an above-average sized Swedish municipality (almost 80,000 inhabitants). It was initiated by the local planning authority (referred to as the ‘case LPA’) in 2012 to transform a former military area into a new, complete housing district (referred to as the ‘Nature Town’) that combines high-quality architecture and sustainable technical solutions. Once fully developed, Nature Town will accommodate housing for about 5,500 new residents as well as premises for workplaces and service functions. The LPA is realizing the expansion of Nature Town in stages by allocating and transferring land sequentially, sub-area by sub-area of the district, to developers whose design proposals are deemed by the LPA to meet specific architectural and sustainability criteria concerning (inter alia) urban design, energy efficiency, affordability and accessibility. The process of realizing these criteria though a developer dialogue process is the focus of this study.

Common practice among Swedish LPAs is to regulate conditions for new urban developments through detailed development plans. However, since Nature Town resides on municipal land the LPA has elected to regulate primarily through development agreements, which are tailored to each developer, complemented by a detailed development plan that serves as loose framework for the entire Nature Town development area. Since the traditional process for establishing development agreements has been criticized for lack of transparency and predictability the LPA decided to develop a new process approach that would open up for more developers to participate in and in which the design of new property developments emerges in dialogue between developers and the LPA. In this study, experiences from applying the new process approach in a developer dialogue process for a sub-area of the Nature town housing district have been gathered and analyzed from a coordination perspective.

3. A coordination perspective on dialogue processes

The last half-decade has seen a massive development in the field of how organizations are coordinated. Different attempts to define organizational coordination have emerged but the position taken in this research takes its stance from Crowston [5], who viewed coordination as a way of working together in the organization by coordinating activities and managing interdependencies between activities performed to achieve a mutual goal. By this definition, organizational coordination mechanisms that are necessary to achieve the goal and the management of interdependencies are important to elucidate.

One understanding of mechanisms for coordination comes from March and Simon [6] that made distinctions between coordination by plan and coordination by feedback. March and Simons’ work [6] was later developed by Mintzberg [7] and presented as five coordination mechanisms: mutual adjustment (due to interdependencies among complex tasks), direct supervision, standardization of work process, standardization of work output and standardization of work skills. Another understanding of coordination mechanisms stems from the work by Roethlisberger and Dickson [8], who pointed out that informal structures in an organization are one of the most significant coordination mechanics, a significance later coined as the relationship between informal and formal means of coordination and other coordination mechanisms [9]. Martinez and Jarillo [10] proposed that informal means of coordination, exemplified by cross-departmental relations, informal communication and socialization in an organization are as important as formal means for coordination, exemplified by centralized or decentralized decision-making, policies and job descriptions.

Uncertainties in organizational coordination can occur between tasks or activities, defined as task interdependencies according to Thompson [11], and can be managed with different coordination
mechanisms. Several attempts to explain the occurrence of interdependencies are found in literature. Thompson [11] introduces three different coupling forms of interdependencies: pooled coupling (tasks in a workflow are disconnected), sequential coupling (tasks need previous task from two or more workflows to be completed), and reciprocal coupling (a looping workflow). Mintzberg [7] divides interdependencies into four subgroups: work-flow interdependencies (relationships between operating tasks), process interdependencies (operators in different sectors talking to each other), scale interdependencies (e.g. one key operator have smaller tasks in many processes), and social interdependencies (the compromise between objective factors of the work flow and subjective factors).

Thompson’s [11] constructs for interdependencies were originally developed to describe intra (within)-organizational coordination yet interdependencies have, at least in construction management research, also been used to study inter (between)-organizational coordination [4]. Intra-organizational coordination can most certainly impose other mechanisms and interdependencies than inter-organizational coordination. This is acknowledged in this research, but not dealt with in particular.

3.1 Proposing a coordination mechanisms approach to analyse the developer dialogue process

Summarizing the above, the position taken in this research is that employed organizational coordination mechanisms and management of the interdependencies occurring between activities follows Crowston [5] and supports our aim to depict and analyse the developer dialogue process. Formal and informal means of coordination, based on Martinez and Jarillo [10], and identification of interdependencies as analytical concepts conceptualized according to Thompson [11] and Mintzberg [7] are especially acknowledged. This approach guides differentiation of activities necessary to achieve set sustainability goals and means required to coordinate interdependencies among activities in the developer dialogue process utilized for the Nature town project.

4. Method

To depict the dialogue process used in the Nature Town project a process model was developed and analyzed based on Langley’s [12] sense making of events and process data. Process theories can provide explanations in terms of the sequence of events leading to an outcome [12]. Following [12], we employed visual maps by boxes and arrows to conceptualize events connected to the dialogue process. The events in the dialogue process were identified as:

- Formal tasks and activities in the form of decision-making activities that are regulated by the Planning and Building Act
- Informal tasks and activities interpreted as emerging and deliberate decision-making activities that is not legally regulated but utilized by the LPA in the dialogue process
- Interdependencies emerging from the formal and informal tasks and activities. Interdependencies were interpreted as uncertainties following Thompson’s [11] three different coupling forms, Mintzberg’s [7] four subgroups of interdependencies and Crowston’s [5] distinction between activities necessary to achieve the goal (in our case the sustainability goals of the urban development project) and activities required to manage various interdependencies emerging from carrying out decision-making activities.

To develop the process model, empirical material were collected which includes written documentation such as official and working documents and researchers’ notes from meetings and informal talks with participating LPA officials (including urban planners, exploitation engineers, building inspectors). Based on this documentation, two workshops were held with LPA participants (see table 1) during June and October 2019 to validate and refine the draft process model. The first workshop (WS 1) involved LPA representatives from the spatial planning department and the land and exploitation department and highlighted question marks, hindering factors, unclear decision-making events, unclear communication paths, and unclear roles. Particular attention was brought to unclarities of the building permit phase of the dialogue process. These unclarities were a specific focus during the second workshop (WS 2), which representatives from the building permit department also attended.
The final validated process model (presented in Figure 1) shows tasks/activities and their interdependencies represented as a series of discrete boxes connected by arrows. More specifically, it contains key formal and informal decision-making activities (events) and emerging interdependencies detected by workshop participants where builders/developers and/or LPA officials met, interacted and negotiated interpretations of the targeted architectonic and sustainability qualities and the solutions that can be used to meet them.

In order to contrast the findings from the dialogue process used in the Nature Town project and to deepen the understanding of the coordination mechanisms at work, interviews were held with representatives from the LPAs of five Swedish municipalities during September-October 2019 (see table 1). LPAs A, B, C, D and E were chosen because, like the case LPA, they are situated in population growth regions. They were also identified as a either role models for other LPAs that have an interest in developing developer dialogue process (LPA B and D) or as a LPA that have tried one of the two previously mentioned LPAs’ dialogue process models in their own urban development projects. The interviews were loosely structured around a number of pre-defined questions, which focused on the interviewees’ perceptions and experiences about developer dialogue processes and key activities therein in “their” LPA. They were conducted with an open interview approach, where interviewees initially were allowed to introduce their own issues of the topic at hand.

Table 1. Workshop participants, representing the case LPA, and interviewees, representing five other Swedish LPAs (A-E).

| Organizational unit       | No. of participants | Interviewees |
|---------------------------|---------------------|--------------|
| Spatial planning          | 2 3                 | A Land and Exploitation 2 |
| Land and Exploitation     | 3 2                 | B Land and Exploitation 2 |
| Building Supervision      | 0 3                 | C Spatial planning 2    |
|                           |                     | D Land and Exploitation 4 |
|                           |                     | E Property development 1 |

Both the workshops and interviews were recorded and transcribed. The analysis of the empirical material involved conceptualizing the identified activities and the emerging interdependencies of the dialogue process used in the Nature Town process following the proposed coordination mechanism approach described in section 3.1. Findings were compared with the interviewed LPAs’ descriptions to capture similarities and differences.

5. Findings
The process goes from sustainability goals created by the local planning authority to the sustainability outcome. Building actors interested in housing development in the sub-area are invited to submit a design proposal, which shall meet the criteria to have a chance to be allocated a land plot. Through an evaluation process, consisting of a dialogue process between the building actor and different
departments in the local planning authority, the desired sustainability outcome is supposed to be achieved and the land plot is transferred.

Figure 1. Model of the dialogue process consisting of four sub-process and their activities. The letters point out interesting areas. It is notable that the figure does not have any time axis; despite that a few activities seem to occur parallel to each other they could be happening on different occasions.

5.1. Setting rules

There are two different goals of this sub-process. The first is to frame the development process by developing and adopting an architectural and quality programme (establishing overall design principles and guidelines for sustainable building, see “A” in figure 1) and a detailed development plan (regulating the use of the land) for the Nature town housing district. Developing the architectural and quality programme and the detailed development plan is a formal activity that it is steered by policies (e.g. national sustainability policies) and regulations (the Swedish Planning and Building Act), but it is also informal in the sense that it is steered by cross-departmental negotiations, informal communication and socialization between politics, officials and other stakeholders.

The second goal is to establish architectonic and sustainability criteria specific for the sub-area in question. The LPA formed a three-person group (called assessment group in figure 1) with representatives from the land and exploitation department, the building permit department and the spatial-planning department. The group derived a selection and interpretation of the architectural and quality programme (called criteria selection in figure 1). In doing so, the group aimed to elucidate the criteria that were deemed to be the most important, applicable and monitorable aspects of the architectural and quality programme for the specific sub-area. The selection and interpretation process was accomplished through mutual adjustment, where the assessment group realized the selection by socializing with colleagues in the LPA. It also involved a standardization of the work process (an instruction for the building actors on how to develop their proposals) and standardization of the output (since the criteria documents states what the LPA wants to achieve in terms of sustainability outcomes).

Uncertainties between the tasks in this sub-process are if overall sustainability goals of land developments in the case LPA are captured by the architectural and quality programme and the detailed development plan and then successfully operationalized into criteria for the specific urban development project. Another uncertainty is if the criteria are formulated in a way that enables the LPA’s intentions to be transmitted to the building actors. Comparing the assessment approach used by the case LPA with that of LPA A-E, the function and composition of the assessment group seem to differ. For example, LPA E has one or two officials from one department who selects the criteria themselves, whereas LPA B hires a consultant who together with one person from the land and exploitation department make the selection but also assists with evaluations downstream in the process (see section 5.3).

An ongoing dialogue in all LPAs addressed in this study is how to set criteria for “soft” aspects of sustainability in urban settlements such as togetherness among residents and mixed neighborhoods with different housing types and tenures. In this regard, the most apparent uncertainty that LPAs encounter is how to set clear and monitorable criteria, also allowing comparisons between building actors’ different
design proposals. That is, how to manage all the interdependencies from the political ruling, the strategic apex, all the way down to the operating core, i.e. the design and construction of the buildings and the spaces between them (to manage the social interdependencies that in the end fulfill the sustainability goals).

5.2. Developing proposals
From the case LPA’s perspective, the two goals of this sub-process are to invite the building actors to participate in the land allocation process, and to encourage building actors to submit a design proposal that meet the architectonic and sustainability criteria set by the LPA. The LPA’s approach to reach the goals is to rely on relationships formed through an informal interdependency, where the two parties (the LPA and the building actors) meet, interact and negotiate interpretations of the criteria and the design solutions that can be used to meet them. Through dialogue, the two parties are expected to arrive at a shared view of the development process and its outcomes. For example, the LPA openly invited building actors to a workshop where a draft invitation to land allocation was presented and discussed before a refined version was officially announced (see “B” in the figure 5).

In an attempt to control the outcome and manage uncertainties that could occur in the building actors’ submitted design proposals the criteria included in the invitation were divided into three types: mandatory criteria (formalities such as information about the organization behind the proposal), basic criteria (architectural guidelines to adhere to), and award criteria (desirable architectural and sustainability qualities of the buildings and the spaces between them). The mandatory criteria and the basic criteria could be seen as formal means of coordination because of their focus on job descriptions, and as a direct supervision since they leave little space for own interpretations. However, the award criteria is an informal means of coordination since their interpretation is affected by mutual adjustment between building actors who produce the design proposals and the assessment group who evaluates them.

5.3. Evaluating proposals
There are three goals with this sub-process. First, through a comparative evaluation, the assessment group is to select the building actors’ proposals that are most likely to succeed in achieving the architectural and sustainability criteria. Second, the assessment group (in dialogue with the building actor) is to translate solutions from the proposal (deemed to fulfil the criteria) into requirements that are incorporated in a land allocation agreement. Third, the LPA is to monitor that building actors consider the requirements as they refine their design proposal and apply for building permits. The main uncertainties of this sub-process relate to the assessment group’s ability to pick the building actor(s) who best fulfill the criteria, to formulate clear and monitorable requirements in the land allocation agreement, and to make sure that agreed requirements do not “disappear” downstream in the process.

The assessments group’s evaluation work was an internal communication activity to assess and decide on which building actors that presented the “best” proposals in terms of fulfilment of the criteria. This work is associated with process interdependency where operators in different sectors in the LPA talk to each other. When evaluating the proposals, the assessment group used the award criteria as a sort of “qualifiers” because they clear the differences between the building actors’ ideas stated in their proposals. No ranking of the award criteria were included in the invitation to land allocation to encourage building actors to propose new and differentiated ideas for their housing developments. This approach opens up for mutual adjustments between the building actors’ and the assessment group’s views of how to interpret and operationalize the award criteria into design solutions (See the letter “C” in figure 1).

Among LPA representatives at WS 2 there was a consensual agreement that, in addition to checking legal compliance, the building supervisors should also check the fulfilment of the requirements in the land allocation agreement (i.e., each individual building actor’s solutions to meet the architectural and sustainability criteria for the sub-area, see the letters “D1” and “D2” in figure 1). Otherwise, the criteria will not be checked until the transferring of land the sub-process (see letter “E” in the figure 1) which
might be too late to take actions for criteria compliance. This procedure could be seen as a direct supervision of how well the plans and specifications submitted by building actors in the building permit phase application agree with the previously negotiated proposals. The goal is thus accomplished with a formal interdependency where the building actor transfer their proposal to the building permit department for formal approval.

The LPAs A-E seem to use a similar evaluation process in that an assessment group scrutinizes the proposals and negotiate the agreements. The difference lies in how decisions are made and what coordination mechanisms are used. For example, LPA B has a more formal process where they reach out to building actors with scored criteria, which could be seen as a standardization of both work process and output. The use of scored criteria allows LPA B to raise or lower the scores of specific criteria to match the goals of each individual urban development project as they select the building actor(s) based on highest total score. The assessment group’s consultant prepares a checklist of scored criteria for each selected proposal, which the building actor must complete before being eligible for building permit and land allocation. In this regard, the consultant deals with scale interdependency as a key operator throughout the whole process. LPA B’s use of a consultant who supervises the process could also be seen as an act of direct supervision.

5.4 Transferring land
The primary goal of this sub-process is to set up a land transfer agreement in order for the building actors company to start on-site construction. The secondary goal is to check that the building actors’ building permit is valid and that the proposed housing development follows the land allocation agreement.

When the building actors receive their building permits the assessment group should check if the requirements specified in the land allocation agreement have been met and, if so, the land plot is sold and transferred to the building actor so that construction works can formally begin. If the requirements are not met, the assessment group could abstain from selling. This is an important uncertainty to manage; if the building permit do not conform with the land allocation agreement the tedious efforts of the assessment group to derive and formulate criteria, to evaluate submitted proposals against them and to negotiate with “the winner(s)” will have little impact on the final product. During the workshops, case LPA representatives pointed out that this would be a loss for also for the building actors, which have made large investments to develop the proposal, to negotiate with the LPA and to apply for the building permit. The LPA, on their part, wants the planned new housing developments to be realized. Therefore, the assessment group have to date not declined a building actor access to the land, but they have accepted compromises in the end product.

During construction works, the assessment group will not conduct any active on-site inspections; yet they claim that they would notice if something changed from what was originally agreed upon. As stipulated in the Swedish Planning and Building Act, the building permit department will issue a final consultation on-site after which they give a final clearance if the property can be assumed to meet the conditions of the building permit. This procedure captures the spirit of the whole process, where the core is the social interdependency where actors throughout the whole process is talking and compromising between objective factors stated in formal documents and subjective factors where the LPA and the building actors work together towards a shared goal through dialogue (See the letters “F1” and “F2” in figure 1).

6. Conclusions and discussion
We have depicted and analyzed the developer dialogue process used by a Swedish LPA through organizational coordination mechanisms. We have investigated the activities in four subprocesses and developed a process model to understand how the LPA is managing the dialogue process to achieve set sustainability goals.

During the dialogue process, the initially set sustainability goals go through a (re-)interpretation process, where the LPA sets the rules and select the criteria that later form the basis for the building actor(s) in designing their solutions (see A, B, and C in figure 1). During this process, the end products
of the housing developments are outlined and the LPA has the opportunity to affect the sustainability outcome. The description of the process through a coordination mechanism perspective reveals that mutual adjustment is used alongside more formal standardization of both the outcome and the work process. However, interdependencies present throughout seem to make it problematic to maintain the suitability goals throughout the whole process since the coordination mechanics applied in later stages of the process can be seen as direct supervision. This could lead to trouble in keeping traceability between the suitability goals and the sustainability outcome.

Architectural and sustainability qualities that are agreed upon during the sub-process of evaluating proposals could get lost when information is passed on to the land allocation agreement, to the building permit department and back to be checked by the assessment group in a reciprocal coupling (see D1, D2, and E in figure 1). Similar to the whispering game there is a risk that information could disappear in this coupling interdependency.

As shown in figure 1 (see F1 and F2), the way the LPA interacts with the building actor(s) involves social interdependency throughout the whole process. The LPA and the building actor(s) partake in ongoing socialization; they talk with each other and negotiate solutions. If this interdependency is managed properly, it might lead to a greater sustainability goal fulfillment.

Further research will focus especially on the building actor's perspectives of the developer dialogue process. It is also vital to note that the first buildings are currently being built in the Nature Town and it is only when they are finished that we will be able to distinguish if the applied coordination mechanisms created the necessary conditions for meeting the sustainability goals that the LPA strives to fulfill.

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